# Filter Summary Report: CG,TIA,simple,Z1,Z3,Z4

Generated by MacAnalog-Symbolix

January 17, 2025

## Contents

# 1 Examined $H(z)$ for CG TIA simple Z1 Z3 Z4: $\frac{Z_1 Z_3 Z_4 g_m}{2Z_1 Z_3 g_m + Z_1 Z_4 g_m + 2Z_3 + Z_4}$

$$H(z) = \frac{Z_1 Z_3 Z_4 g_m}{2Z_1 Z_3 g_m + Z_1 Z_4 g_m + 2Z_3 + Z_4}$$

# 2 HP

# 3 BP

## 3.1 BP-1 $Z(s) = \left( R_1, \ \infty, \ R_3, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_4 R_1 R_3 g_m s}{2R_1 R_3 g_m + 2R_3 + s^2 \left(2C_4 L_4 R_1 R_3 g_m + 2C_4 L_4 R_3\right) + s\left(L_4 R_1 g_m + L_4\right)}$$

**Parameters:**

Q: $2C_4 R_3 \sqrt{\frac{1}{C_4 L_4}}$

wo: $\sqrt{\frac{1}{C_4 L_4}}$

bandwidth: $\frac{1}{2C_4 R_3}$

K-LP: 0

K-HP: 0

K-BP: $\frac{R_1 R_3 g_m}{R_1 g_m + 1}$

Qz: None

Wz: None

## 3.2 BP-2 $Z(s) = \left( R_1, \ \infty, \ R_3, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_4 R_1 R_3 R_4 g_m s}{2R_1 R_3 R_4 g_m + 2R_3 R_4 + s^2 \left(2C_4 L_4 R_1 R_3 R_4 g_m + 2C_4 L_4 R_3 R_4\right) + s\left(2L_4 R_1 R_3 g_m + L_4 R_1 R_4 g_m + 2L_4 R_3 + L_4 R_4\right)}$$

**Parameters:**

Q: $\frac{2C_4 R_3 R_4 \sqrt{\frac{1}{C_4 L_4}}}{2R_3 + R_4}$

wo: $\sqrt{\frac{1}{C_4 L_4}}$

bandwidth: $\frac{2R_3 + R_4}{2C_4 R_3 R_4}$

K-LP: 0

K-HP: 0

K-BP: $\frac{R_1 R_3 R_4 g_m}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4}$

Qz: None

Wz: None

## 3.3 BP-3 $Z(s) = \left( R_1, \ \infty, \ \frac{1}{C_3 s}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_4 R_1 R_4 g_m s}{2R_1 R_4 g_m + 2R_4 + s^2 \left(C_3 L_4 R_1 R_4 g_m + C_3 L_4 R_4 + 2C_4 L_4 R_1 R_4 g_m + 2C_4 L_4 R_4\right) + s\left(2L_4 R_1 g_m + 2L_4\right)}$$

**Parameters:**

Q: $\frac{\sqrt{2} C_3 R_4 \sqrt{\frac{1}{C_3 L_4 + 2C_4 L_4}}}{2} + \sqrt{2} C_4 R_4 \sqrt{\frac{1}{C_3 L_4 + 2C_4 L_4}}$

wo: $\sqrt{2} \sqrt{\frac{1}{C_3 L_4 + 2C_4 L_4}}$

bandwidth: $\frac{\sqrt{2}\sqrt{\frac{1}{C_3 L_4 + 2C_4 L_4}}}{\frac{\sqrt{2} C_3 R_4 \sqrt{\frac{1}{C_3 L_4 + 2C_4 L_4}}}{2} + \sqrt{2} C_4 R_4 \sqrt{\frac{1}{C_3 L_4 + 2C_4 L_4}}}$

K-LP: 0

K-HP: 0

K-BP: $\frac{R_1 R_4 g_m}{2R_1 g_m + 2}$
Qz: None
Wz: None

## 3.4 BP-4 $Z(s) = \left( R_1, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_4 R_1 R_3 g_m s}{2R_1 R_3 g_m + 2R_3 + s^2 \left(C_3 L_4 R_1 R_3 g_m + C_3 L_4 R_3 + 2C_4 L_4 R_1 R_3 g_m + 2C_4 L_4 R_3\right) + s \left(L_4 R_1 g_m + L_4\right)}$$

**Parameters:**

Q: $\sqrt{2} C_3 R_3 \sqrt{\frac{1}{C_3 L_4 + 2C_4 L_4}} + 2\sqrt{2} C_4 R_3 \sqrt{\frac{1}{C_3 L_4 + 2C_4 L_4}}$

wo: $\sqrt{2} \sqrt{\frac{1}{C_3 L_4 + 2C_4 L_4}}$

bandwidth: $\frac{\sqrt{2}\sqrt{\frac{1}{C_3 L_4 + 2C_4 L_4}}}{\sqrt{2} C_3 R_3 \sqrt{\frac{1}{C_3 L_4 + 2C_4 L_4}} + 2\sqrt{2} C_4 R_3 \sqrt{\frac{1}{C_3 L_4 + 2C_4 L_4}}}$

K-LP: 0
K-HP: 0
K-BP: $\frac{R_1 R_3 g_m}{R_1 g_m + 1}$
Qz: None
Wz: None

## 3.5 BP-5 $Z(s) = \left( R_1, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_4 R_1 R_3 R_4 g_m s}{2R_1 R_3 R_4 g_m + 2R_3 R_4 + s^2 \left(C_3 L_4 R_1 R_3 R_4 g_m + C_3 L_4 R_3 R_4 + 2C_4 L_4 R_1 R_3 R_4 g_m + 2C_4 L_4 R_3 R_4\right) + s \left(2L_4 R_1 R_3 g_m + L_4 R_1 R_4 g_m + 2L_4 R_3 + L_4 R_4\right)}$$

**Parameters:**

Q: $\frac{\sqrt{2} C_3 R_3 R_4 \sqrt{\frac{1}{C_3 L_4 + 2C_4 L_4}} + 2\sqrt{2} C_4 R_3 R_4 \sqrt{\frac{1}{C_3 L_4 + 2C_4 L_4}}}{2R_3 + R_4}$

wo: $\sqrt{2} \sqrt{\frac{1}{C_3 L_4 + 2C_4 L_4}}$

bandwidth: $\frac{\sqrt{2}(2R_3 + R_4)\sqrt{\frac{1}{C_3 L_4 + 2C_4 L_4}}}{\sqrt{2} C_3 R_3 R_4 \sqrt{\frac{1}{C_3 L_4 + 2C_4 L_4}} + 2\sqrt{2} C_4 R_3 R_4 \sqrt{\frac{1}{C_3 L_4 + 2C_4 L_4}}}$

K-LP: 0
K-HP: 0
K-BP: $\frac{R_1 R_3 R_4 g_m}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4}$
Qz: None
Wz: None

## 3.6 BP-6 $Z(s) = \left( R_1, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_3 R_1 R_4 g_m s}{R_1 R_4 g_m + R_4 + s^2 \left(C_3 L_3 R_1 R_4 g_m + C_3 L_3 R_4\right) + s \left(2L_3 R_1 g_m + 2L_3\right)}$$

**Parameters:**

Q: $\frac{C_3 R_4 \sqrt{\frac{1}{C_3 L_3}}}{2}$

wo: $\sqrt{\frac{1}{C_3 L_3}}$

bandwidth: $\frac{2}{C_3 R_4}$

K-LP: 0
K-HP: 0
K-BP: $\frac{R_1 R_4 g_m}{2R_1 g_m + 2}$
Qz: None
Wz: None

## 3.7 BP-7 $Z(s) = \left(R_1,\ \infty,\ \frac{L_3 s}{C_3 L_3 s^2 + 1},\ \frac{R_4}{C_4 R_4 s + 1},\ \infty,\ \infty\right)$

$$H(s) = \frac{L_3 R_1 R_4 g_m s}{R_1 R_4 g_m + R_4 + s^2\left(C_3 L_3 R_1 R_4 g_m + C_3 L_3 R_4 + 2C_4 L_3 R_1 R_4 g_m + 2C_4 L_3 R_4\right) + s\left(2L_3 R_1 g_m + 2L_3\right)}$$

**Parameters:**

Q: $\dfrac{C_3 R_4 \sqrt{\frac{1}{C_3 L_3 + 2C_4 L_3}}}{2} + C_4 R_4 \sqrt{\frac{1}{C_3 L_3 + 2C_4 L_3}}$

wo: $\sqrt{\frac{1}{C_3 L_3 + 2C_4 L_3}}$

bandwidth: $\dfrac{\sqrt{\frac{1}{C_3 L_3 + 2C_4 L_3}}}{\frac{C_3 R_4 \sqrt{\frac{1}{C_3 L_3 + 2C_4 L_3}}}{2} + C_4 R_4 \sqrt{\frac{1}{C_3 L_3 + 2C_4 L_3}}}$

K-LP: 0

K-HP: 0

K-BP: $\frac{R_1 R_4 g_m}{2R_1 g_m + 2}$

Qz: None

Wz: None

## 3.8 BP-8 $Z(s) = \left(R_1,\ \infty,\ \frac{L_3 s}{C_3 L_3 s^2 + 1},\ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4},\ \infty,\ \infty\right)$

$$H(s) = \frac{L_3 L_4 R_1 R_4 g_m s}{2L_3 R_1 R_4 g_m + 2L_3 R_4 + L_4 R_1 R_4 g_m + L_4 R_4 + s^2\left(C_3 L_3 L_4 R_1 R_4 g_m + C_3 L_3 L_4 R_4 + 2C_4 L_3 L_4 R_1 R_4 g_m + 2C_4 L_3 L_4 R_4\right) + s\left(2L_3 L_4 R_1 g_m + 2L_3 L_4\right)}$$

**Parameters:**

Q: $\dfrac{C_3 R_4 \sqrt{\frac{2L_3}{C_3 L_3 L_4 + 2C_4 L_3 L_4} + \frac{L_4}{C_3 L_3 L_4 + 2C_4 L_3 L_4}}}{2} + C_4 R_4 \sqrt{\frac{2L_3}{C_3 L_3 L_4 + 2C_4 L_3 L_4} + \frac{L_4}{C_3 L_3 L_4 + 2C_4 L_3 L_4}}$

wo: $\sqrt{\frac{2L_3 + L_4}{C_3 L_3 L_4 + 2C_4 L_3 L_4}}$

bandwidth: $\dfrac{\sqrt{\frac{2L_3 + L_4}{C_3 L_3 L_4 + 2C_4 L_3 L_4}}}{\frac{C_3 R_4 \sqrt{\frac{2L_3}{C_3 L_3 L_4 + 2C_4 L_3 L_4} + \frac{L_4}{C_3 L_3 L_4 + 2C_4 L_3 L_4}}}{2} + C_4 R_4 \sqrt{\frac{2L_3}{C_3 L_3 L_4 + 2C_4 L_3 L_4} + \frac{L_4}{C_3 L_3 L_4 + 2C_4 L_3 L_4}}}$

K-LP: 0

K-HP: 0

K-BP: $\dfrac{R_1 R_4 g_m \sqrt{\frac{2}{C_3 L_4 + 2C_4 L_4} + \frac{1}{C_3 L_3 + 2C_4 L_3}}}{2R_1 g_m \sqrt{\frac{2L_3}{C_3 L_3 L_4 + 2C_4 L_3 L_4} + \frac{L_4}{C_3 L_3 L_4 + 2C_4 L_3 L_4}} + 2\sqrt{\frac{2L_3}{C_3 L_3 L_4 + 2C_4 L_3 L_4} + \frac{L_4}{C_3 L_3 L_4 + 2C_4 L_3 L_4}}}$

Qz: None

Wz: None

## 3.9 BP-9 $Z(s) = \left(R_1,\ \infty,\ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3},\ R_4,\ \infty,\ \infty\right)$

$$H(s) = \frac{L_3 R_1 R_3 R_4 g_m s}{R_1 R_3 R_4 g_m + R_3 R_4 + s^2\left(C_3 L_3 R_1 R_3 R_4 g_m + C_3 L_3 R_3 R_4\right) + s\left(2L_3 R_1 R_3 g_m + L_3 R_1 R_4 g_m + 2L_3 R_3 + L_3 R_4\right)}$$

**Parameters:**

Q: $\dfrac{C_3 R_3 R_4 \sqrt{\frac{1}{C_3 L_3}}}{2R_3 + R_4}$

wo: $\sqrt{\frac{1}{C_3 L_3}}$

bandwidth: $\frac{2R_3 + R_4}{C_3 R_3 R_4}$

K-LP: 0

K-HP: 0

K-BP: $\frac{R_1 R_3 R_4 g_m}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4}$

Qz: None

Wz: None

## 3.10 BP-10 $Z(s) = \left(R_1, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{L_3 R_1 R_3 g_m s}{R_1 R_3 g_m + R_3 + s^2 \left(C_3 L_3 R_1 R_3 g_m + C_3 L_3 R_3 + 2 C_4 L_3 R_1 R_3 g_m + 2 C_4 L_3 R_3\right) + s \left(L_3 R_1 g_m + L_3\right)}$$

**Parameters:**

Q: $C_3 R_3 \sqrt{\frac{1}{C_3 L_3 + 2 C_4 L_3}} + 2 C_4 R_3 \sqrt{\frac{1}{C_3 L_3 + 2 C_4 L_3}}$

wo: $\sqrt{\frac{1}{C_3 L_3 + 2 C_4 L_3}}$

bandwidth: $\frac{\sqrt{\frac{1}{C_3 L_3 + 2 C_4 L_3}}}{C_3 R_3 \sqrt{\frac{1}{C_3 L_3 + 2 C_4 L_3}} + 2 C_4 R_3 \sqrt{\frac{1}{C_3 L_3 + 2 C_4 L_3}}}$

K-LP: 0

K-HP: 0

K-BP: $\frac{R_1 R_3 g_m}{R_1 g_m + 1}$

Qz: None

Wz: None

## 3.11 BP-11 $Z(s) = \left(R_1, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{L_3 R_1 R_3 R_4 g_m s}{R_1 R_3 R_4 g_m + R_3 R_4 + s^2 \left(C_3 L_3 R_1 R_3 R_4 g_m + C_3 L_3 R_3 R_4 + 2 C_4 L_3 R_1 R_3 R_4 g_m + 2 C_4 L_3 R_3 R_4\right) + s \left(2 L_3 R_1 R_3 g_m + L_3 R_1 R_4 g_m + 2 L_3 R_3 + L_3 R_4\right)}$$

**Parameters:**

Q: $\frac{C_3 R_3 R_4 \sqrt{\frac{1}{C_3 L_3 + 2 C_4 L_3}} + 2 C_4 R_3 R_4 \sqrt{\frac{1}{C_3 L_3 + 2 C_4 L_3}}}{2 R_3 + R_4}$

wo: $\sqrt{\frac{1}{C_3 L_3 + 2 C_4 L_3}}$

bandwidth: $\frac{(2 R_3 + R_4) \sqrt{\frac{1}{C_3 L_3 + 2 C_4 L_3}}}{C_3 R_3 R_4 \sqrt{\frac{1}{C_3 L_3 + 2 C_4 L_3}} + 2 C_4 R_3 R_4 \sqrt{\frac{1}{C_3 L_3 + 2 C_4 L_3}}}$

K-LP: 0

K-HP: 0

K-BP: $\frac{R_1 R_3 R_4 g_m}{2 R_1 R_3 g_m + R_1 R_4 g_m + 2 R_3 + R_4}$

Qz: None

Wz: None

## 3.12 BP-12 $Z(s) = \left(R_1, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{L_3 L_4 R_1 R_3 g_m s}{2 L_3 R_1 R_3 g_m + 2 L_3 R_3 + L_4 R_1 R_3 g_m + L_4 R_3 + s^2 \left(C_3 L_3 L_4 R_1 R_3 g_m + C_3 L_3 L_4 R_3 + 2 C_4 L_3 L_4 R_1 R_3 g_m + 2 C_4 L_3 L_4 R_3\right) + s \left(L_3 L_4 R_1 g_m + L_3 L_4\right)}$$

**Parameters:**

Q: $C_3 R_3 \sqrt{\frac{2 L_3}{C_3 L_3 L_4 + 2 C_4 L_3 L_4} + \frac{L_4}{C_3 L_3 L_4 + 2 C_4 L_3 L_4}} + 2 C_4 R_3 \sqrt{\frac{2 L_3}{C_3 L_3 L_4 + 2 C_4 L_3 L_4} + \frac{L_4}{C_3 L_3 L_4 + 2 C_4 L_3 L_4}}$

wo: $\sqrt{\frac{2 L_3 + L_4}{C_3 L_3 L_4 + 2 C_4 L_3 L_4}}$

bandwidth: $\frac{\sqrt{\frac{2 L_3 + L_4}{C_3 L_3 L_4 + 2 C_4 L_3 L_4}}}{C_3 R_3 \sqrt{\frac{2 L_3}{C_3 L_3 L_4 + 2 C_4 L_3 L_4} + \frac{L_4}{C_3 L_3 L_4 + 2 C_4 L_3 L_4}} + 2 C_4 R_3 \sqrt{\frac{2 L_3}{C_3 L_3 L_4 + 2 C_4 L_3 L_4} + \frac{L_4}{C_3 L_3 L_4 + 2 C_4 L_3 L_4}}}$

K-LP: 0

K-HP: 0

K-BP: $\frac{R_1 R_3 g_m \sqrt{\frac{2}{C_3 L_4 + 2 C_4 L_4} + \frac{1}{C_3 L_3 + 2 C_4 L_3}}}{R_1 g_m \sqrt{\frac{2 L_3}{C_3 L_3 L_4 + 2 C_4 L_3 L_4} + \frac{L_4}{C_3 L_3 L_4 + 2 C_4 L_3 L_4}} + \sqrt{\frac{2 L_3}{C_3 L_3 L_4 + 2 C_4 L_3 L_4} + \frac{L_4}{C_3 L_3 L_4 + 2 C_4 L_3 L_4}}}$

Qz: None

Wz: None

## 3.13 BP-13 $Z(s) = \left(R_1, \ \infty, \ \frac{L_3R_3s}{C_3L_3R_3s^2+L_3s+R_3}, \ \frac{L_4R_4s}{C_4L_4R_4s^2+L_4s+R_4}, \ \infty, \ \infty\right)$

$$H(s) = \frac{L_3L_4R_1R_3R_4g_m s}{2L_3R_1R_3R_4g_m + 2L_3R_3R_4 + L_4R_1R_3R_4g_m + L_4R_3R_4 + s^2\left(C_3L_3L_4R_1R_3R_4g_m + C_3L_3L_4R_3R_4 + 2C_4L_3L_4R_1R_3R_4g_m + 2C_4L_3L_4R_3R_4\right) + s\left(2L_3L_4R_1R_3g_m + L_3L_4R_1R_4g_m + 2L_3L_4R_3 + L_3L_4R_4\right)}$$

**Parameters:**

Q: $\dfrac{C_3R_3R_4\sqrt{\frac{2L_3}{C_3L_3L_4+2C_4L_3L_4}+\frac{L_4}{C_3L_3L_4+2C_4L_3L_4}}+2C_4R_3R_4\sqrt{\frac{2L_3}{C_3L_3L_4+2C_4L_3L_4}+\frac{L_4}{C_3L_3L_4+2C_4L_3L_4}}}{2R_3+R_4}$

wo: $\sqrt{\dfrac{2L_3+L_4}{C_3L_3L_4+2C_4L_3L_4}}$

bandwidth: $\dfrac{\sqrt{\frac{2L_3+L_4}{C_3L_3L_4+2C_4L_3L_4}}(2R_3+R_4)}{C_3R_3R_4\sqrt{\frac{2L_3}{C_3L_3L_4+2C_4L_3L_4}+\frac{L_4}{C_3L_3L_4+2C_4L_3L_4}}+2C_4R_3R_4\sqrt{\frac{2L_3}{C_3L_3L_4+2C_4L_3L_4}+\frac{L_4}{C_3L_3L_4+2C_4L_3L_4}}}$

K-LP: 0
K-HP: 0

K-BP: $\dfrac{R_1R_3R_4g_m\sqrt{\frac{2}{C_3L_4+2C_4L_4}+\frac{1}{C_3L_3+2C_4L_3}}}{2R_1R_3g_m\sqrt{\frac{2L_3}{C_3L_3L_4+2C_4L_3L_4}+\frac{L_4}{C_3L_3L_4+2C_4L_3L_4}}+R_1R_4g_m\sqrt{\frac{2L_3}{C_3L_3L_4+2C_4L_3L_4}+\frac{L_4}{C_3L_3L_4+2C_4L_3L_4}}+2R_3\sqrt{\frac{2L_3}{C_3L_3L_4+2C_4L_3L_4}+\frac{L_4}{C_3L_3L_4+2C_4L_3L_4}}+R_4\sqrt{\frac{2L_3}{C_3L_3L_4+2C_4L_3L_4}+\frac{L_4}{C_3L_3L_4+2C_4L_3L_4}}}$

Qz: None
Wz: None

## 3.14 BP-14 $Z(s) = \left(L_1s, \ \infty, \ R_3, \ \frac{1}{C_4s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{L_1R_3g_m s}{2C_4L_1R_3g_m s^2 + s\left(2C_4R_3 + L_1g_m\right) + 1}$$

**Parameters:**

Q: $\dfrac{\sqrt{2}C_4L_1R_3g_m\sqrt{\frac{1}{C_4L_1R_3g_m}}}{2C_4R_3+L_1g_m}$

wo: $\dfrac{\sqrt{2}\sqrt{\frac{1}{C_4L_1R_3g_m}}}{2}$

bandwidth: $\dfrac{2C_4R_3+L_1g_m}{2C_4L_1R_3g_m}$

K-LP: 0
K-HP: 0
K-BP: $\dfrac{L_1R_3g_m}{2C_4R_3+L_1g_m}$
Qz: None
Wz: None

## 3.15 BP-15 $Z(s) = \left(L_1s, \ \infty, \ R_3, \ \frac{R_4}{C_4R_4s+1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{L_1R_3R_4g_m s}{2C_4L_1R_3R_4g_m s^2 + 2R_3 + R_4 + s\left(2C_4R_3R_4 + 2L_1R_3g_m + L_1R_4g_m\right)}$$

**Parameters:**

Q: $\dfrac{\sqrt{2}C_4L_1R_3R_4g_m\sqrt{\frac{2}{C_4L_1R_4g_m}+\frac{1}{C_4L_1R_3g_m}}}{2C_4R_3R_4+2L_1R_3g_m+L_1R_4g_m}$

wo: $\dfrac{\sqrt{2}\sqrt{\frac{2R_3+R_4}{C_4L_1R_3R_4g_m}}}{2}$

bandwidth: $\dfrac{\sqrt{\frac{2R_3+R_4}{C_4L_1R_3R_4g_m}}(2C_4R_3R_4+2L_1R_3g_m+L_1R_4g_m)}{2C_4L_1R_3R_4g_m\sqrt{\frac{2}{C_4L_1R_4g_m}+\frac{1}{C_4L_1R_3g_m}}}$

K-LP: 0
K-HP: 0
K-BP: $\dfrac{L_1R_3R_4g_m}{2C_4R_3R_4+2L_1R_3g_m+L_1R_4g_m}$
Qz: None
Wz: None

## 3.16 BP-16 $Z(s) = \left(L_1 s, \ \infty, \ \frac{1}{C_3 s}, \ R_4, \ \infty, \ \infty\right)$

$$H(s) = \frac{L_1 R_4 g_m s}{C_3 L_1 R_4 g_m s^2 + s\left(C_3 R_4 + 2L_1 g_m\right) + 2}$$

**Parameters:**

Q: $\frac{\sqrt{2} C_3 L_1 R_4 g_m \sqrt{\frac{1}{C_3 L_1 R_4 g_m}}}{C_3 R_4 + 2L_1 g_m}$

wo: $\sqrt{2}\sqrt{\frac{1}{C_3 L_1 R_4 g_m}}$

bandwidth: $\frac{C_3 R_4 + 2L_1 g_m}{C_3 L_1 R_4 g_m}$

K-LP: 0

K-HP: 0

K-BP: $\frac{L_1 R_4 g_m}{C_3 R_4 + 2L_1 g_m}$

Qz: None

Wz: None

## 3.17 BP-17 $Z(s) = \left(L_1 s, \ \infty, \ \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{L_1 R_4 g_m s}{s^2\left(C_3 L_1 R_4 g_m + 2C_4 L_1 R_4 g_m\right) + s\left(C_3 R_4 + 2C_4 R_4 + 2L_1 g_m\right) + 2}$$

**Parameters:**

Q: $\frac{\sqrt{2} C_3 L_1 R_4 g_m \sqrt{\frac{1}{C_3 L_1 R_4 g_m + 2C_4 L_1 R_4 g_m}} + 2\sqrt{2} C_4 L_1 R_4 g_m \sqrt{\frac{1}{C_3 L_1 R_4 g_m + 2C_4 L_1 R_4 g_m}}}{C_3 R_4 + 2C_4 R_4 + 2L_1 g_m}$

wo: $\sqrt{2}\sqrt{\frac{1}{C_3 L_1 R_4 g_m + 2C_4 L_1 R_4 g_m}}$

bandwidth: $\frac{\sqrt{2}(C_3 R_4 + 2C_4 R_4 + 2L_1 g_m)\sqrt{\frac{1}{C_3 L_1 R_4 g_m + 2C_4 L_1 R_4 g_m}}}{\sqrt{2} C_3 L_1 R_4 g_m \sqrt{\frac{1}{C_3 L_1 R_4 g_m + 2C_4 L_1 R_4 g_m}} + 2\sqrt{2} C_4 L_1 R_4 g_m \sqrt{\frac{1}{C_3 L_1 R_4 g_m + 2C_4 L_1 R_4 g_m}}}$

K-LP: 0

K-HP: 0

K-BP: $\frac{L_1 R_4 g_m}{C_3 R_4 + 2C_4 R_4 + 2L_1 g_m}$

Qz: None

Wz: None

## 3.18 BP-18 $Z(s) = \left(L_1 s, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ R_4, \ \infty, \ \infty\right)$

$$H(s) = \frac{L_1 R_3 R_4 g_m s}{C_3 L_1 R_3 R_4 g_m s^2 + 2R_3 + R_4 + s\left(C_3 R_3 R_4 + 2L_1 R_3 g_m + L_1 R_4 g_m\right)}$$

**Parameters:**

Q: $\frac{C_3 L_1 R_3 R_4 g_m \sqrt{\frac{2}{C_3 L_1 R_4 g_m} + \frac{1}{C_3 L_1 R_3 g_m}}}{C_3 R_3 R_4 + 2L_1 R_3 g_m + L_1 R_4 g_m}$

wo: $\sqrt{\frac{2R_3 + R_4}{C_3 L_1 R_3 R_4 g_m}}$

bandwidth: $\frac{\sqrt{\frac{2R_3 + R_4}{C_3 L_1 R_3 R_4 g_m}}(C_3 R_3 R_4 + 2L_1 R_3 g_m + L_1 R_4 g_m)}{C_3 L_1 R_3 R_4 g_m \sqrt{\frac{2}{C_3 L_1 R_4 g_m} + \frac{1}{C_3 L_1 R_3 g_m}}}$

K-LP: 0

K-HP: 0

K-BP: $\frac{L_1 R_3 R_4 g_m}{C_3 R_3 R_4 + 2L_1 R_3 g_m + L_1 R_4 g_m}$

Qz: None

Wz: None

## 3.19 BP-19 $Z(s) = \left(L_1 s, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{L_1 R_3 g_m s}{s^2\left(C_3 L_1 R_3 g_m + 2C_4 L_1 R_3 g_m\right) + s\left(C_3 R_3 + 2C_4 R_3 + L_1 g_m\right) + 1}$$

**Parameters:**

$$Q: \frac{C_3L_1R_3g_m\sqrt{\frac{1}{C_3L_1R_3g_m+2C_4L_1R_3g_m}}+2C_4L_1R_3g_m\sqrt{\frac{1}{C_3L_1R_3g_m+2C_4L_1R_3g_m}}}{C_3R_3+2C_4R_3+L_1g_m}$$

wo: $\sqrt{\frac{1}{C_3L_1R_3g_m+2C_4L_1R_3g_m}}$

bandwidth: $\frac{(C_3R_3+2C_4R_3+L_1g_m)\sqrt{\frac{1}{C_3L_1R_3g_m+2C_4L_1R_3g_m}}}{C_3L_1R_3g_m\sqrt{\frac{1}{C_3L_1R_3g_m+2C_4L_1R_3g_m}}+2C_4L_1R_3g_m\sqrt{\frac{1}{C_3L_1R_3g_m+2C_4L_1R_3g_m}}}$

K-LP: 0

K-HP: 0

K-BP: $\frac{L_1R_3g_m}{C_3R_3+2C_4R_3+L_1g_m}$

Qz: None

Wz: None

## 3.20    BP-20 $Z(s) = \left(L_1s,\ \infty,\ \frac{R_3}{C_3R_3s+1},\ \frac{R_4}{C_4R_4s+1},\ \infty,\ \infty\right)$

$$H(s) = \frac{L_1R_3R_4g_ms}{2R_3+R_4+s^2\left(C_3L_1R_3R_4g_m+2C_4L_1R_3R_4g_m\right)+s\left(C_3R_3R_4+2C_4R_3R_4+2L_1R_3g_m+L_1R_4g_m\right)}$$

**Parameters:**

Q: $\frac{C_3L_1R_3R_4g_m\sqrt{\frac{2R_3}{C_3L_1R_3R_4g_m+2C_4L_1R_3R_4g_m}+\frac{R_4}{C_3L_1R_3R_4g_m+2C_4L_1R_3R_4g_m}}+2C_4L_1R_3R_4g_m\sqrt{\frac{2R_3}{C_3L_1R_3R_4g_m+2C_4L_1R_3R_4g_m}+\frac{R_4}{C_3L_1R_3R_4g_m+2C_4L_1R_3R_4g_m}}}{C_3R_3R_4+2C_4R_3R_4+2L_1R_3g_m+L_1R_4g_m}$

wo: $\sqrt{\frac{2R_3+R_4}{C_3L_1R_3R_4g_m+2C_4L_1R_3R_4g_m}}$

bandwidth: $\frac{\sqrt{\frac{2R_3+R_4}{C_3L_1R_3R_4g_m+2C_4L_1R_3R_4g_m}}(C_3R_3R_4+2C_4R_3R_4+2L_1R_3g_m+L_1R_4g_m)}{C_3L_1R_3R_4g_m\sqrt{\frac{2R_3}{C_3L_1R_3R_4g_m+2C_4L_1R_3R_4g_m}+\frac{R_4}{C_3L_1R_3R_4g_m+2C_4L_1R_3R_4g_m}}+2C_4L_1R_3R_4g_m\sqrt{\frac{2R_3}{C_3L_1R_3R_4g_m+2C_4L_1R_3R_4g_m}+\frac{R_4}{C_3L_1R_3R_4g_m+2C_4L_1R_3R_4g_m}}}$

K-LP: 0

K-HP: 0

K-BP: $\frac{L_1R_3R_4g_m\sqrt{\frac{2}{C_3L_1R_4g_m+2C_4L_1R_4g_m}+\frac{1}{C_3L_1R_3g_m+2C_4L_1R_3g_m}}}{C_3R_3R_4\sqrt{\frac{2R_3}{C_3L_1R_3R_4g_m+2C_4L_1R_3R_4g_m}+\frac{R_4}{C_3L_1R_3R_4g_m+2C_4L_1R_3R_4g_m}}+2C_4R_3R_4\sqrt{\frac{2R_3}{C_3L_1R_3R_4g_m+2C_4L_1R_3R_4g_m}+\frac{R_4}{C_3L_1R_3R_4g_m+2C_4L_1R_3R_4g_m}}+2L_1R_3g_m\sqrt{\frac{2R_3}{C_3L_1R_3R_4g_m+2C_4L_1R_3R_4g_m}+\frac{R_4}{C_3L_1R_3R_4g_m+2C_4L_1R_3R_4g_m}}+L_1R_4g_m\sqrt{\frac{2R_3}{C_3L_1R_3R_4g_m+2C_4L_1R_3R_4g_m}+\frac{R_4}{C_3L_1R_3R_4g_m+2C_4L_1R_3R_4g_m}}}$

Qz: None

Wz: None

## 3.21    BP-21 $Z(s) = \left(\frac{L_1s}{C_1L_1s^2+1},\ \infty,\ R_3,\ R_4,\ \infty,\ \infty\right)$

$$H(s) = \frac{L_1R_3R_4g_ms}{2R_3+R_4+s^2\left(2C_1L_1R_3+C_1L_1R_4\right)+s\left(2L_1R_3g_m+L_1R_4g_m\right)}$$

**Parameters:**

Q: $\frac{C_1\sqrt{\frac{1}{C_1L_1}}}{g_m}$

wo: $\sqrt{\frac{1}{C_1L_1}}$

bandwidth: $\frac{g_m}{C_1}$

K-LP: 0

K-HP: 0

K-BP: $\frac{R_3R_4}{2R_3+R_4}$

Qz: None

Wz: None

## 3.22    BP-22 $Z(s) = \left(\frac{L_1R_1s}{C_1L_1R_1s^2+L_1s+R_1},\ \infty,\ R_3,\ R_4,\ \infty,\ \infty\right)$

$$H(s) = \frac{L_1R_1R_3R_4g_ms}{2R_1R_3+R_1R_4+s^2\left(2C_1L_1R_1R_3+C_1L_1R_1R_4\right)+s\left(2L_1R_1R_3g_m+L_1R_1R_4g_m+2L_1R_3+L_1R_4\right)}$$

**Parameters:**

Q: $\frac{C_1R_1\sqrt{\frac{1}{C_1L_1}}}{R_1g_m+1}$

wo: $\sqrt{\frac{1}{C_1L_1}}$

bandwidth: $\frac{R_1g_m+1}{C_1R_1}$

K-LP: 0

K-HP: 0

K-BP: $\frac{R_1 R_3 R_4 g_m}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4}$
Qz: None
Wz: None

# 4  LP

## 4.1  LP-1 $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ R_3, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{R_3 g_m}{2C_1 C_4 R_3 s^2 + g_m + s \left( C_1 + 2C_4 R_3 g_m \right)}$$

**Parameters:**

Q: $\frac{\sqrt{2} C_1 C_4 R_3 \sqrt{\frac{g_m}{C_1 C_4 R_3}}}{C_1 + 2C_4 R_3 g_m}$

wo: $\frac{\sqrt{2}\sqrt{\frac{g_m}{C_1 C_4 R_3}}}{2}$

bandwidth: $\frac{C_1 + 2C_4 R_3 g_m}{2C_1 C_4 R_3}$

K-LP: $R_3$
K-HP: 0
K-BP: 0
Qz: None
Wz: None

## 4.2  LP-2 $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ R_3, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{R_3 R_4 g_m}{2C_1 C_4 R_3 R_4 s^2 + 2R_3 g_m + R_4 g_m + s \left( 2C_1 R_3 + C_1 R_4 + 2C_4 R_3 R_4 g_m \right)}$$

**Parameters:**

Q: $\frac{\sqrt{2} C_1 C_4 R_3 R_4 \sqrt{\frac{2g_m}{C_1 C_4 R_4} + \frac{g_m}{C_1 C_4 R_3}}}{2C_1 R_3 + C_1 R_4 + 2C_4 R_3 R_4 g_m}$

wo: $\frac{\sqrt{2}\sqrt{\frac{2R_3 g_m + R_4 g_m}{C_1 C_4 R_3 R_4}}}{2}$

bandwidth: $\frac{\sqrt{\frac{2R_3 g_m + R_4 g_m}{C_1 C_4 R_3 R_4}} \left( 2C_1 R_3 + C_1 R_4 + 2C_4 R_3 R_4 g_m \right)}{2C_1 C_4 R_3 R_4 \sqrt{\frac{2g_m}{C_1 C_4 R_4} + \frac{g_m}{C_1 C_4 R_3}}}$

K-LP: $\frac{R_3 R_4}{2R_3 + R_4}$
K-HP: 0
K-BP: 0
Qz: None
Wz: None

## 4.3  LP-3 $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{1}{C_3 s}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{R_4 g_m}{C_1 C_3 R_4 s^2 + 2g_m + s \left( 2C_1 + C_3 R_4 g_m \right)}$$

**Parameters:**

Q: $\frac{\sqrt{2} C_1 C_3 R_4 \sqrt{\frac{g_m}{C_1 C_3 R_4}}}{2C_1 + C_3 R_4 g_m}$

wo: $\sqrt{2}\sqrt{\frac{g_m}{C_1 C_3 R_4}}$

bandwidth: $\frac{2C_1 + C_3 R_4 g_m}{C_1 C_3 R_4}$

K-LP: $\frac{R_4}{2}$
K-HP: 0
K-BP: 0
Qz: None
Wz: None

## 4.4   LP-4 $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{R_4 g_m}{2g_m + s^2 \left( C_1 C_3 R_4 + 2C_1 C_4 R_4 \right) + s \left( 2C_1 + C_3 R_4 g_m + 2C_4 R_4 g_m \right)}$$

**Parameters:**

Q: $\dfrac{\sqrt{2} C_1 C_3 R_4 \sqrt{\frac{g_m}{C_1 C_3 R_4 + 2C_1 C_4 R_4}} + 2\sqrt{2} C_1 C_4 R_4 \sqrt{\frac{g_m}{C_1 C_3 R_4 + 2C_1 C_4 R_4}}}{2C_1 + C_3 R_4 g_m + 2C_4 R_4 g_m}$

wo: $\sqrt{2} \sqrt{\dfrac{g_m}{C_1 C_3 R_4 + 2C_1 C_4 R_4}}$

bandwidth: $\dfrac{\sqrt{2} \sqrt{\frac{g_m}{C_1 C_3 R_4 + 2C_1 C_4 R_4}} \left( 2C_1 + C_3 R_4 g_m + 2C_4 R_4 g_m \right)}{\sqrt{2} C_1 C_3 R_4 \sqrt{\frac{g_m}{C_1 C_3 R_4 + 2C_1 C_4 R_4}} + 2\sqrt{2} C_1 C_4 R_4 \sqrt{\frac{g_m}{C_1 C_3 R_4 + 2C_1 C_4 R_4}}}$

K-LP: $\frac{R_4}{2}$
K-HP: 0
K-BP: 0
Qz: None
Wz: None

## 4.5   LP-5 $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{R_3 R_4 g_m}{C_1 C_3 R_3 R_4 s^2 + 2R_3 g_m + R_4 g_m + s \left( 2C_1 R_3 + C_1 R_4 + C_3 R_3 R_4 g_m \right)}$$

**Parameters:**

Q: $\dfrac{C_1 C_3 R_3 R_4 \sqrt{\frac{2g_m}{C_1 C_3 R_4} + \frac{g_m}{C_1 C_3 R_3}}}{2C_1 R_3 + C_1 R_4 + C_3 R_3 R_4 g_m}$

wo: $\sqrt{\dfrac{2R_3 g_m + R_4 g_m}{C_1 C_3 R_3 R_4}}$

bandwidth: $\dfrac{\sqrt{\frac{2R_3 g_m + R_4 g_m}{C_1 C_3 R_3 R_4}} \left( 2C_1 R_3 + C_1 R_4 + C_3 R_3 R_4 g_m \right)}{C_1 C_3 R_3 R_4 \sqrt{\frac{2g_m}{C_1 C_3 R_4} + \frac{g_m}{C_1 C_3 R_3}}}$

K-LP: $\frac{R_3 R_4}{2R_3 + R_4}$
K-HP: 0
K-BP: 0
Qz: None
Wz: None

## 4.6   LP-6 $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{R_3 g_m}{g_m + s^2 \left( C_1 C_3 R_3 + 2C_1 C_4 R_3 \right) + s \left( C_1 + C_3 R_3 g_m + 2C_4 R_3 g_m \right)}$$

**Parameters:**

Q: $\dfrac{C_1 C_3 R_3 \sqrt{\frac{g_m}{C_1 C_3 R_3 + 2C_1 C_4 R_3}} + 2C_1 C_4 R_3 \sqrt{\frac{g_m}{C_1 C_3 R_3 + 2C_1 C_4 R_3}}}{C_1 + C_3 R_3 g_m + 2C_4 R_3 g_m}$

wo: $\sqrt{\dfrac{g_m}{C_1 C_3 R_3 + 2C_1 C_4 R_3}}$

bandwidth: $\dfrac{\sqrt{\frac{g_m}{C_1 C_3 R_3 + 2C_1 C_4 R_3}} \left( C_1 + C_3 R_3 g_m + 2C_4 R_3 g_m \right)}{C_1 C_3 R_3 \sqrt{\frac{g_m}{C_1 C_3 R_3 + 2C_1 C_4 R_3}} + 2C_1 C_4 R_3 \sqrt{\frac{g_m}{C_1 C_3 R_3 + 2C_1 C_4 R_3}}}$

K-LP: $R_3$
K-HP: 0
K-BP: 0
Qz: None
Wz: None

## 4.7 LP-7 $Z(s) = \left(\frac{1}{C_1 s},\ \infty,\ \frac{R_3}{C_3 R_3 s + 1},\ \frac{R_4}{C_4 R_4 s + 1},\ \infty,\ \infty\right)$

$$H(s) = \frac{R_3 R_4 g_m}{2R_3 g_m + R_4 g_m + s^2 \left(C_1 C_3 R_3 R_4 + 2C_1 C_4 R_3 R_4\right) + s \left(2C_1 R_3 + C_1 R_4 + C_3 R_3 R_4 g_m + 2C_4 R_3 R_4 g_m\right)}$$

**Parameters:**

Q: $\dfrac{C_1 C_3 R_3 R_4 \sqrt{\frac{2R_3 g_m}{C_1 C_3 R_3 R_4 + 2C_1 C_4 R_3 R_4} + \frac{R_4 g_m}{C_1 C_3 R_3 R_4 + 2C_1 C_4 R_3 R_4}} + 2C_1 C_4 R_3 R_4 \sqrt{\frac{2R_3 g_m}{C_1 C_3 R_3 R_4 + 2C_1 C_4 R_3 R_4} + \frac{R_4 g_m}{C_1 C_3 R_3 R_4 + 2C_1 C_4 R_3 R_4}}}{2C_1 R_3 + C_1 R_4 + C_3 R_3 R_4 g_m + 2C_4 R_3 R_4 g_m}$

wo: $\sqrt{\dfrac{2R_3 g_m + R_4 g_m}{C_1 C_3 R_3 R_4 + 2C_1 C_4 R_3 R_4}}$

bandwidth: $\dfrac{\sqrt{\frac{2R_3 g_m + R_4 g_m}{C_1 C_3 R_3 R_4 + 2C_1 C_4 R_3 R_4}}\left(2C_1 R_3 + C_1 R_4 + C_3 R_3 R_4 g_m + 2C_4 R_3 R_4 g_m\right)}{C_1 C_3 R_3 R_4 \sqrt{\frac{2R_3 g_m}{C_1 C_3 R_3 R_4 + 2C_1 C_4 R_3 R_4} + \frac{R_4 g_m}{C_1 C_3 R_3 R_4 + 2C_1 C_4 R_3 R_4}} + 2C_1 C_4 R_3 R_4 \sqrt{\frac{2R_3 g_m}{C_1 C_3 R_3 R_4 + 2C_1 C_4 R_3 R_4} + \frac{R_4 g_m}{C_1 C_3 R_3 R_4 + 2C_1 C_4 R_3 R_4}}}$

K-LP: $\frac{R_3 R_4}{2R_3 + R_4}$
K-HP: 0
K-BP: 0
Qz: None
Wz: None

## 4.8 LP-8 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1},\ \infty,\ R_3,\ \frac{1}{C_4 s},\ \infty,\ \infty\right)$

$$H(s) = \frac{R_1 R_3 g_m}{2C_1 C_4 R_1 R_3 s^2 + R_1 g_m + s \left(C_1 R_1 + 2C_4 R_1 R_3 g_m + 2C_4 R_3\right) + 1}$$

**Parameters:**

Q: $\dfrac{\sqrt{2} C_1 C_4 R_1 R_3 \sqrt{\frac{g_m}{C_1 C_4 R_3} + \frac{1}{C_1 C_4 R_1 R_3}}}{C_1 R_1 + 2C_4 R_1 R_3 g_m + 2C_4 R_3}$

wo: $\dfrac{\sqrt{2}\sqrt{\frac{R_1 g_m + 1}{C_1 C_4 R_1 R_3}}}{2}$

bandwidth: $\dfrac{\sqrt{\frac{R_1 g_m + 1}{C_1 C_4 R_1 R_3}}\left(C_1 R_1 + 2C_4 R_1 R_3 g_m + 2C_4 R_3\right)}{2C_1 C_4 R_1 R_3 \sqrt{\frac{g_m}{C_1 C_4 R_3} + \frac{1}{C_1 C_4 R_1 R_3}}}$

K-LP: $\frac{R_1 R_3 g_m}{R_1 g_m + 1}$
K-HP: 0
K-BP: 0
Qz: None
Wz: None

## 4.9 LP-9 $Z(s) = \left(\frac{R_1}{C_1 R_1 s + 1},\ \infty,\ R_3,\ \frac{R_4}{C_4 R_4 s + 1},\ \infty,\ \infty\right)$

$$H(s) = \frac{R_1 R_3 R_4 g_m}{2C_1 C_4 R_1 R_3 R_4 s^2 + 2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4 + s \left(2C_1 R_1 R_3 + C_1 R_1 R_4 + 2C_4 R_1 R_3 R_4 g_m + 2C_4 R_3 R_4\right)}$$

**Parameters:**

Q: $\dfrac{\sqrt{2} C_1 C_4 R_1 R_3 R_4 \sqrt{\frac{2g_m}{C_1 C_4 R_4} + \frac{g_m}{C_1 C_4 R_3} + \frac{2}{C_1 C_4 R_1 R_4} + \frac{1}{C_1 C_4 R_1 R_3}}}{2C_1 R_1 R_3 + C_1 R_1 R_4 + 2C_4 R_1 R_3 R_4 g_m + 2C_4 R_3 R_4}$

wo: $\dfrac{\sqrt{2}\sqrt{\frac{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4}{C_1 C_4 R_1 R_3 R_4}}}{2}$

bandwidth: $\dfrac{\sqrt{\frac{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4}{C_1 C_4 R_1 R_3 R_4}}\left(2C_1 R_1 R_3 + C_1 R_1 R_4 + 2C_4 R_1 R_3 R_4 g_m + 2C_4 R_3 R_4\right)}{2C_1 C_4 R_1 R_3 R_4 \sqrt{\frac{2g_m}{C_1 C_4 R_4} + \frac{g_m}{C_1 C_4 R_3} + \frac{2}{C_1 C_4 R_1 R_4} + \frac{1}{C_1 C_4 R_1 R_3}}}$

K-LP: $\frac{R_1 R_3 R_4 g_m}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4}$
K-HP: 0
K-BP: 0
Qz: None
Wz: None

## 4.10 LP-10 $Z(s) = \left(\frac{R_1}{C_1R_1s+1},\ \infty,\ \frac{1}{C_3s},\ R_4,\ \infty,\ \infty\right)$

$$H(s) = \frac{R_1R_4g_m}{C_1C_3R_1R_4s^2 + 2R_1g_m + s\left(2C_1R_1 + C_3R_1R_4g_m + C_3R_4\right) + 2}$$

**Parameters:**

Q: $\frac{\sqrt{2}C_1C_3R_1R_4\sqrt{\frac{g_m}{C_1C_3R_4}+\frac{1}{C_1C_3R_1R_4}}}{2C_1R_1+C_3R_1R_4g_m+C_3R_4}$

wo: $\sqrt{\frac{2R_1g_m+2}{C_1C_3R_1R_4}}$

bandwidth: $\frac{\sqrt{2}\sqrt{\frac{2R_1g_m+2}{C_1C_3R_1R_4}}(2C_1R_1+C_3R_1R_4g_m+C_3R_4)}{2C_1C_3R_1R_4\sqrt{\frac{g_m}{C_1C_3R_4}+\frac{1}{C_1C_3R_1R_4}}}$

K-LP: $\frac{R_1R_4g_m}{2R_1g_m+2}$

K-HP: 0

K-BP: 0

Qz: None

Wz: None


## 4.11 LP-11 $Z(s) = \left(\frac{R_1}{C_1R_1s+1},\ \infty,\ \frac{1}{C_3s},\ \frac{R_4}{C_4R_4s+1},\ \infty,\ \infty\right)$

$$H(s) = \frac{R_1R_4g_m}{2R_1g_m + s^2\left(C_1C_3R_1R_4 + 2C_1C_4R_1R_4\right) + s\left(2C_1R_1 + C_3R_1R_4g_m + C_3R_4 + 2C_4R_1R_4g_m + 2C_4R_4\right) + 2}$$

**Parameters:**

Q: $\frac{\sqrt{2}C_1C_3R_1R_4\sqrt{\frac{R_1g_m}{C_1C_3R_1R_4+2C_1C_4R_1R_4}+\frac{1}{C_1C_3R_1R_4+2C_1C_4R_1R_4}}+2\sqrt{2}C_1C_4R_1R_4\sqrt{\frac{R_1g_m}{C_1C_3R_1R_4+2C_1C_4R_1R_4}+\frac{1}{C_1C_3R_1R_4+2C_1C_4R_1R_4}}}{2C_1R_1+C_3R_1R_4g_m+C_3R_4+2C_4R_1R_4g_m+2C_4R_4}$

wo: $\sqrt{\frac{2R_1g_m+2}{C_1C_3R_1R_4+2C_1C_4R_1R_4}}$

bandwidth: $\frac{\sqrt{\frac{2R_1g_m+2}{C_1C_3R_1R_4+2C_1C_4R_1R_4}}(2C_1R_1+C_3R_1R_4g_m+C_3R_4+2C_4R_1R_4g_m+2C_4R_4)}{\sqrt{2}C_1C_3R_1R_4\sqrt{\frac{R_1g_m}{C_1C_3R_1R_4+2C_1C_4R_1R_4}+\frac{1}{C_1C_3R_1R_4+2C_1C_4R_1R_4}}+2\sqrt{2}C_1C_4R_1R_4\sqrt{\frac{R_1g_m}{C_1C_3R_1R_4+2C_1C_4R_1R_4}+\frac{1}{C_1C_3R_1R_4+2C_1C_4R_1R_4}}}$

K-LP: $\frac{R_1R_4g_m}{2R_1g_m+2}$

K-HP: 0

K-BP: 0

Qz: None

Wz: None


## 4.12 LP-12 $Z(s) = \left(\frac{R_1}{C_1R_1s+1},\ \infty,\ \frac{R_3}{C_3R_3s+1},\ R_4,\ \infty,\ \infty\right)$

$$H(s) = \frac{R_1R_3R_4g_m}{C_1C_3R_1R_3R_4s^2 + 2R_1R_3g_m + R_1R_4g_m + 2R_3 + R_4 + s\left(2C_1R_1R_3 + C_1R_1R_4 + C_3R_1R_3R_4g_m + C_3R_3R_4\right)}$$

**Parameters:**

Q: $\frac{C_1C_3R_1R_3R_4\sqrt{\frac{2g_m}{C_1C_3R_4}+\frac{g_m}{C_1C_3R_3}+\frac{2}{C_1C_3R_1R_4}+\frac{1}{C_1C_3R_1R_3}}}{2C_1R_1R_3+C_1R_1R_4+C_3R_1R_3R_4g_m+C_3R_3R_4}$

wo: $\sqrt{\frac{2R_1R_3g_m+R_1R_4g_m+2R_3+R_4}{C_1C_3R_1R_3R_4}}$

bandwidth: $\frac{\sqrt{\frac{2R_1R_3g_m+R_1R_4g_m+2R_3+R_4}{C_1C_3R_1R_3R_4}}(2C_1R_1R_3+C_1R_1R_4+C_3R_1R_3R_4g_m+C_3R_3R_4)}{C_1C_3R_1R_3R_4\sqrt{\frac{2g_m}{C_1C_3R_4}+\frac{g_m}{C_1C_3R_3}+\frac{2}{C_1C_3R_1R_4}+\frac{1}{C_1C_3R_1R_3}}}$

K-LP: $\frac{R_1R_3R_4g_m}{2R_1R_3g_m+R_1R_4g_m+2R_3+R_4}$

K-HP: 0

K-BP: 0

Qz: None

Wz: None

## 4.13 LP-13 $Z(s) = \left( \frac{R_1}{C_1 R_1 s+1}, \ \infty, \ \frac{R_3}{C_3 R_3 s+1}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{R_1 R_3 g_m}{R_1 g_m + s^2 \left( C_1 C_3 R_1 R_3 + 2 C_1 C_4 R_1 R_3 \right) + s \left( C_1 R_1 + C_3 R_1 R_3 g_m + C_3 R_3 + 2 C_4 R_1 R_3 g_m + 2 C_4 R_3 \right) + 1}$$

**Parameters:**

Q: $\dfrac{C_1 C_3 R_1 R_3 \sqrt{\frac{R_1 g_m}{C_1 C_3 R_1 R_3 + 2 C_1 C_4 R_1 R_3} + \frac{1}{C_1 C_3 R_1 R_3 + 2 C_1 C_4 R_1 R_3}} + 2 C_1 C_4 R_1 R_3 \sqrt{\frac{R_1 g_m}{C_1 C_3 R_1 R_3 + 2 C_1 C_4 R_1 R_3} + \frac{1}{C_1 C_3 R_1 R_3 + 2 C_1 C_4 R_1 R_3}}}{C_1 R_1 + C_3 R_1 R_3 g_m + C_3 R_3 + 2 C_4 R_1 R_3 g_m + 2 C_4 R_3}$

wo: $\sqrt{\dfrac{R_1 g_m + 1}{C_1 C_3 R_1 R_3 + 2 C_1 C_4 R_1 R_3}}$

bandwidth: $\dfrac{\sqrt{\frac{R_1 g_m + 1}{C_1 C_3 R_1 R_3 + 2 C_1 C_4 R_1 R_3}} \left( C_1 R_1 + C_3 R_1 R_3 g_m + C_3 R_3 + 2 C_4 R_1 R_3 g_m + 2 C_4 R_3 \right)}{C_1 C_3 R_1 R_3 \sqrt{\frac{R_1 g_m}{C_1 C_3 R_1 R_3 + 2 C_1 C_4 R_1 R_3} + \frac{1}{C_1 C_3 R_1 R_3 + 2 C_1 C_4 R_1 R_3}} + 2 C_1 C_4 R_1 R_3 \sqrt{\frac{R_1 g_m}{C_1 C_3 R_1 R_3 + 2 C_1 C_4 R_1 R_3} + \frac{1}{C_1 C_3 R_1 R_3 + 2 C_1 C_4 R_1 R_3}}}$

K-LP: $\frac{R_1 R_3 g_m}{R_1 g_m + 1}$
K-HP: 0
K-BP: 0
Qz: None
Wz: None

## 4.14 LP-14 $Z(s) = \left( \frac{R_1}{C_1 R_1 s+1}, \ \infty, \ \frac{R_3}{C_3 R_3 s+1}, \ \frac{R_4}{C_4 R_4 s+1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{R_1 R_3 R_4 g_m}{2 R_1 R_3 g_m + R_1 R_4 g_m + 2 R_3 + R_4 + s^2 \left( C_1 C_3 R_1 R_3 R_4 + 2 C_1 C_4 R_1 R_3 R_4 \right) + s \left( 2 C_1 R_1 R_3 + C_1 R_1 R_4 + C_3 R_1 R_3 R_4 g_m + C_3 R_3 R_4 + 2 C_4 R_1 R_3 R_4 g_m + 2 C_4 R_3 R_4 \right)}$$

**Parameters:**

Q: $\dfrac{C_1 C_3 R_1 R_3 R_4 \sqrt{\frac{2 R_1 R_3 g_m}{C_1 C_3 R_1 R_3 R_4 + 2 C_1 C_4 R_1 R_3 R_4} + \frac{R_1 R_4 g_m}{C_1 C_3 R_1 R_3 R_4 + 2 C_1 C_4 R_1 R_3 R_4} + \frac{2 R_3}{C_1 C_3 R_1 R_3 R_4 + 2 C_1 C_4 R_1 R_3 R_4} + \frac{R_4}{C_1 C_3 R_1 R_3 R_4 + 2 C_1 C_4 R_1 R_3 R_4}} + 2 C_1 C_4 R_1 R_3 R_4 \sqrt{\frac{2 R_1 R_3 g_m}{C_1 C_3 R_1 R_3 R_4 + 2 C_1 C_4 R_1 R_3 R_4} + \frac{R_1 R_4 g_m}{C_1 C_3 R_1 R_3 R_4 + 2 C_1 C_4 R_1 R_3 R_4} + \frac{2 R_3}{C_1 C_3 R_1 R_3 R_4 + 2 C_1 C_4 R_1 R_3 R_4} + \frac{R_4}{C_1 C_3 R_1 R_3 R_4 + 2 C_1 C_4 R_1 R_3 R_4}}}{2 C_1 R_1 R_3 + C_1 R_1 R_4 + C_3 R_1 R_3 R_4 g_m + C_3 R_3 R_4 + 2 C_4 R_1 R_3 R_4 g_m + 2 C_4 R_3 R_4}$

wo: $\sqrt{\dfrac{2 R_1 R_3 g_m + R_1 R_4 g_m + 2 R_3 + R_4}{C_1 C_3 R_1 R_3 R_4 + 2 C_1 C_4 R_1 R_3 R_4}}$

bandwidth: $\dfrac{\sqrt{\frac{2 R_1 R_3 g_m + R_1 R_4 g_m + 2 R_3 + R_4}{C_1 C_3 R_1 R_3 R_4 + 2 C_1 C_4 R_1 R_3 R_4}} \left( 2 C_1 R_1 R_3 + C_1 R_1 R_4 + C_3 R_1 R_3 R_4 g_m + C_3 R_3 R_4 + 2 C_4 R_1 R_3 R_4 g_m + 2 C_4 R_3 R_4 \right)}{C_1 C_3 R_1 R_3 R_4 \sqrt{\frac{2 R_1 R_3 g_m}{C_1 C_3 R_1 R_3 R_4 + 2 C_1 C_4 R_1 R_3 R_4} + \frac{R_1 R_4 g_m}{C_1 C_3 R_1 R_3 R_4 + 2 C_1 C_4 R_1 R_3 R_4} + \frac{2 R_3}{C_1 C_3 R_1 R_3 R_4 + 2 C_1 C_4 R_1 R_3 R_4} + \frac{R_4}{C_1 C_3 R_1 R_3 R_4 + 2 C_1 C_4 R_1 R_3 R_4}} + 2 C_1 C_4 R_1 R_3 R_4 \sqrt{\frac{2 R_1 R_3 g_m}{C_1 C_3 R_1 R_3 R_4 + 2 C_1 C_4 R_1 R_3 R_4} + \frac{R_1 R_4 g_m}{C_1 C_3 R_1 R_3 R_4 + 2 C_1 C_4 R_1 R_3 R_4} + \frac{2 R_3}{C_1 C_3 R_1 R_3 R_4 + 2 C_1 C_4 R_1 R_3 R_4} + \frac{R_4}{C_1 C_3 R_1 R_3 R_4 + 2 C_1 C_4 R_1 R_3 R_4}}}$

K-LP: $\frac{R_1 R_3 R_4 g_m}{2 R_1 R_3 g_m + R_1 R_4 g_m + 2 R_3 + R_4}$
K-HP: 0
K-BP: 0
Qz: None
Wz: None

## 4.15 LP-15 $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2+1}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1 g_m}{C_3 + 2 C_4 + s^2 \left( C_1 C_3 L_1 + 2 C_1 C_4 L_1 \right) + s \left( C_3 L_1 g_m + 2 C_4 L_1 g_m \right)}$$

**Parameters:**

Q: $\dfrac{C_1 \sqrt{\frac{1}{C_1 L_1}}}{g_m}$

wo: $\sqrt{\dfrac{1}{C_1 L_1}}$

bandwidth: $\frac{g_m}{C_1}$

K-LP: $\frac{L_1 g_m}{C_3 + 2 C_4}$
K-HP: 0
K-BP: 0
Qz: None
Wz: None

## 4.16 LP-16 $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2+L_1 s+R_1}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1 R_1 g_m}{C_3 R_1 + 2 C_4 R_1 + s^2 \left( C_1 C_3 L_1 R_1 + 2 C_1 C_4 L_1 R_1 \right) + s \left( C_3 L_1 R_1 g_m + C_3 L_1 + 2 C_4 L_1 R_1 g_m + 2 C_4 L_1 \right)}$$

**Parameters:**

Q: $\frac{C_1 R_1 \sqrt{\frac{1}{C_1 L_1}}}{R_1 g_m + 1}$

wo: $\sqrt{\frac{1}{C_1 L_1}}$

bandwidth: $\frac{R_1 g_m + 1}{C_1 R_1}$

K-LP: $\frac{L_1 g_m}{C_3 + 2C_4}$

K-HP: 0

K-BP: 0

Qz: None

Wz: None

# 5  BS

## 5.1  BS-1 $Z(s) = \left( R_1, \ \infty, \ R_3, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_4 R_1 R_3 g_m s^2 + R_1 R_3 g_m}{R_1 g_m + s^2 \left( C_4 L_4 R_1 g_m + C_4 L_4 \right) + s \left( 2 C_4 R_1 R_3 g_m + 2 C_4 R_3 \right) + 1}$$

**Parameters:**

Q: $\frac{L_4 \sqrt{\frac{1}{C_4 L_4}}}{2 R_3}$

wo: $\sqrt{\frac{1}{C_4 L_4}}$

bandwidth: $\frac{2 R_3}{L_4}$

K-LP: $\frac{R_1 R_3 g_m}{R_1 g_m + 1}$

K-HP: $\frac{R_1 R_3 g_m}{R_1 g_m + 1}$

K-BP: 0

Qz: None

Wz: $\sqrt{\frac{1}{C_4 L_4}}$

## 5.2  BS-2 $Z(s) = \left( R_1, \ \infty, \ R_3, \ \frac{R_4 \left( C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_4 R_1 R_3 R_4 g_m s^2 + R_1 R_3 R_4 g_m}{2 R_1 R_3 g_m + R_1 R_4 g_m + 2 R_3 + R_4 + s^2 \left( 2 C_4 L_4 R_1 R_3 g_m + C_4 L_4 R_1 R_4 g_m + 2 C_4 L_4 R_3 + C_4 L_4 R_4 \right) + s \left( 2 C_4 R_1 R_3 R_4 g_m + 2 C_4 R_3 R_4 \right)}$$

**Parameters:**

Q: $\frac{2 L_4 R_3 \sqrt{\frac{1}{C_4 L_4}} + L_4 R_4 \sqrt{\frac{1}{C_4 L_4}}}{2 R_3 R_4}$

wo: $\sqrt{\frac{1}{C_4 L_4}}$

bandwidth: $\frac{2 R_3 R_4 \sqrt{\frac{1}{C_4 L_4}}}{2 L_4 R_3 \sqrt{\frac{1}{C_4 L_4}} + L_4 R_4 \sqrt{\frac{1}{C_4 L_4}}}$

K-LP: $\frac{R_1 R_3 R_4 g_m}{2 R_1 R_3 g_m + R_1 R_4 g_m + 2 R_3 + R_4}$

K-HP: $\frac{R_1 R_3 R_4 g_m}{2 R_1 R_3 g_m + R_1 R_4 g_m + 2 R_3 + R_4}$

K-BP: 0

Qz: None

Wz: $\sqrt{\frac{1}{C_4 L_4}}$

## 5.3  BS-3 $Z(s) = \left( R_1, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_3 R_1 R_4 g_m s^2 + R_1 R_4 g_m}{2 R_1 g_m + s^2 \left( 2 C_3 L_3 R_1 g_m + 2 C_3 L_3 \right) + s \left( C_3 R_1 R_4 g_m + C_3 R_4 \right) + 2}$$

**Parameters:**

Q: $\frac{2 L_3 \sqrt{\frac{1}{C_3 L_3}}}{R_4}$

wo: $\sqrt{\frac{1}{C_3 L_3}}$

bandwidth: $\frac{R_4}{2L_3}$

K-LP: $\frac{R_1 R_4 g_m}{2R_1 g_m + 2}$

K-HP: $\frac{R_1 R_4 g_m}{2R_1 g_m + 2}$

K-BP: 0

Qz: None

Wz: $\sqrt{\frac{1}{C_3 L_3}}$

## 5.4 BS-4 $Z(s) = \left( R_1, \ \infty, \ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_3 R_1 R_3 R_4 g_m s^2 + R_1 R_3 R_4 g_m}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4 + s^2\left(2C_3 L_3 R_1 R_3 g_m + C_3 L_3 R_1 R_4 g_m + 2C_3 L_3 R_3 + C_3 L_3 R_4\right) + s\left(C_3 R_1 R_3 R_4 g_m + C_3 R_3 R_4\right)}$$

**Parameters:**

Q: $\frac{2L_3 R_3 \sqrt{\frac{1}{C_3 L_3}} + L_3 R_4 \sqrt{\frac{1}{C_3 L_3}}}{R_3 R_4}$

wo: $\sqrt{\frac{1}{C_3 L_3}}$

bandwidth: $\frac{R_3 R_4 \sqrt{\frac{1}{C_3 L_3}}}{2L_3 R_3 \sqrt{\frac{1}{C_3 L_3}} + L_3 R_4 \sqrt{\frac{1}{C_3 L_3}}}$

K-LP: $\frac{R_1 R_3 R_4 g_m}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4}$

K-HP: $\frac{R_1 R_3 R_4 g_m}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4}$

K-BP: 0

Qz: None

Wz: $\sqrt{\frac{1}{C_3 L_3}}$

## 5.5 BS-5 $Z(s) = \left( L_1 s + \frac{1}{C_1 s}, \ \infty, \ R_3, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 L_1 R_3 R_4 g_m s^2 + R_3 R_4 g_m}{2R_3 g_m + R_4 g_m + s^2\left(2C_1 L_1 R_3 g_m + C_1 L_1 R_4 g_m\right) + s\left(2C_1 R_3 + C_1 R_4\right)}$$

**Parameters:**

Q: $L_1 g_m \sqrt{\frac{1}{C_1 L_1}}$

wo: $\sqrt{\frac{1}{C_1 L_1}}$

bandwidth: $\frac{1}{L_1 g_m}$

K-LP: $\frac{R_3 R_4}{2R_3 + R_4}$

K-HP: $\frac{R_3 R_4}{2R_3 + R_4}$

K-BP: 0

Qz: None

Wz: $\sqrt{\frac{1}{C_1 L_1}}$

## 5.6 BS-6 $Z(s) = \left( \frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ R_3, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 L_1 R_1 R_3 R_4 g_m s^2 + R_1 R_3 R_4 g_m}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4 + s^2\left(2C_1 L_1 R_1 R_3 g_m + C_1 L_1 R_1 R_4 g_m + 2C_1 L_1 R_3 + C_1 L_1 R_4\right) + s\left(2C_1 R_1 R_3 + C_1 R_1 R_4\right)}$$

**Parameters:**

Q: $\frac{L_1 R_1 g_m \sqrt{\frac{1}{C_1 L_1}} + L_1 \sqrt{\frac{1}{C_1 L_1}}}{R_1}$

wo: $\sqrt{\frac{1}{C_1 L_1}}$

bandwidth: $\frac{R_1 \sqrt{\frac{1}{C_1 L_1}}}{L_1 R_1 g_m \sqrt{\frac{1}{C_1 L_1}} + L_1 \sqrt{\frac{1}{C_1 L_1}}}$

K-LP: $\frac{R_1 R_3 R_4 g_m}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4}$

K-HP: $\frac{R_1 R_3 R_4 g_m}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4}$

K-BP: 0

Qz: None

Wz: $\sqrt{\frac{1}{C_1 L_1}}$

# 6  GE

## 6.1  GE-1 $Z(s) = \left( R_1,\ \infty,\ R_3,\ L_4 s + R_4 + \frac{1}{C_4 s},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_4 L_4 R_1 R_3 g_m s^2 + C_4 R_1 R_3 R_4 g_m s + R_1 R_3 g_m}{R_1 g_m + s^2 \left( C_4 L_4 R_1 g_m + C_4 L_4 \right) + s \left( 2 C_4 R_1 R_3 g_m + C_4 R_1 R_4 g_m + 2 C_4 R_3 + C_4 R_4 \right) + 1}$$

**Parameters:**

Q: $\frac{L_4 \sqrt{\frac{1}{C_4 L_4}}}{2R_3 + R_4}$

wo: $\sqrt{\frac{1}{C_4 L_4}}$

bandwidth: $\frac{2R_3 + R_4}{L_4}$

K-LP: $\frac{R_1 R_3 g_m}{R_1 g_m + 1}$

K-HP: $\frac{R_1 R_3 g_m}{R_1 g_m + 1}$

K-BP: $\frac{R_1 R_3 R_4 g_m}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4}$

Qz: $\frac{L_4 \sqrt{\frac{1}{C_4 L_4}}}{R_4}$

Wz: $\sqrt{\frac{1}{C_4 L_4}}$

## 6.2  GE-2 $Z(s) = \left( R_1,\ \infty,\ R_3,\ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_4 L_4 R_1 R_3 R_4 g_m s^2 + L_4 R_1 R_3 g_m s + R_1 R_3 R_4 g_m}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4 + s^2 \left( 2 C_4 L_4 R_1 R_3 g_m + C_4 L_4 R_1 R_4 g_m + 2 C_4 L_4 R_3 + C_4 L_4 R_4 \right) + s \left( L_4 R_1 g_m + L_4 \right)}$$

**Parameters:**

Q: $2 C_4 R_3 \sqrt{\frac{1}{C_4 L_4}} + C_4 R_4 \sqrt{\frac{1}{C_4 L_4}}$

wo: $\sqrt{\frac{1}{C_4 L_4}}$

bandwidth: $\frac{\sqrt{\frac{1}{C_4 L_4}}}{2 C_4 R_3 \sqrt{\frac{1}{C_4 L_4}} + C_4 R_4 \sqrt{\frac{1}{C_4 L_4}}}$

K-LP: $\frac{R_1 R_3 g_m}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4}$

K-HP: $\frac{R_1 R_3 R_4 g_m}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4}$

K-BP: $\frac{R_1 R_3 g_m}{R_1 g_m + 1}$

Qz: $C_4 R_4 \sqrt{\frac{1}{C_4 L_4}}$

Wz: $\sqrt{\frac{1}{C_4 L_4}}$

## 6.3  GE-3 $Z(s) = \left( R_1,\ \infty,\ L_3 s + R_3 + \frac{1}{C_3 s},\ R_4,\ \infty,\ \infty \right)$

$$H(s) = \frac{C_3 L_3 R_1 R_4 g_m s^2 + C_3 R_1 R_3 R_4 g_m s + R_1 R_4 g_m}{2R_1 g_m + s^2 \left( 2 C_3 L_3 R_1 g_m + 2 C_3 L_3 \right) + s \left( 2 C_3 R_1 R_3 g_m + C_3 R_1 R_4 g_m + 2 C_3 R_3 + C_3 R_4 \right) + 2}$$

**Parameters:**

Q: $\frac{2 L_3 \sqrt{\frac{1}{C_3 L_3}}}{2R_3 + R_4}$

wo: $\sqrt{\frac{1}{C_3 L_3}}$

bandwidth: $\frac{2R_3 + R_4}{2 L_3}$

K-LP: $\frac{R_1 R_4 g_m}{2R_1 g_m + 2}$

K-HP: $\frac{R_1 R_4 g_m}{2R_1 g_m + 2}$

K-BP: $\frac{R_1 R_3 R_4 g_m}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4}$

Qz: $\frac{L_3 \sqrt{\frac{1}{C_3 L_3}}}{R_3}$

Wz: $\sqrt{\frac{1}{C_3 L_3}}$

## 6.4  GE-4 $Z(s) = \left( R_1,\ \infty,\ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1},\ R_4,\ \infty,\ \infty \right)$

$$H(s) = \frac{C_3 L_3 R_1 R_3 R_4 g_m s^2 + L_3 R_1 R_4 g_m s + R_1 R_3 R_4 g_m}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4 + s^2 \left( 2C_3 L_3 R_1 R_3 g_m + C_3 L_3 R_1 R_4 g_m + 2C_3 L_3 R_3 + C_3 L_3 R_4 \right) + s \left( 2L_3 R_1 g_m + 2L_3 \right)}$$

**Parameters:**

Q: $C_3 R_3 \sqrt{\frac{1}{C_3 L_3}} + \frac{C_3 R_4 \sqrt{\frac{1}{C_3 L_3}}}{2}$

wo: $\sqrt{\frac{1}{C_3 L_3}}$

bandwidth: $\frac{\sqrt{\frac{1}{C_3 L_3}}}{C_3 R_3 \sqrt{\frac{1}{C_3 L_3}} + \frac{C_3 R_4 \sqrt{\frac{1}{C_3 L_3}}}{2}}$

K-LP: $\frac{R_1 R_3 R_4 g_m}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4}$

K-HP: $\frac{R_1 R_3 R_4 g_m}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4}$

K-BP: $\frac{R_1 R_4 g_m}{2R_1 g_m + 2}$

Qz: $C_3 R_3 \sqrt{\frac{1}{C_3 L_3}}$

Wz: $\sqrt{\frac{1}{C_3 L_3}}$

## 6.5  GE-5 $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s},\ \infty,\ R_3,\ R_4,\ \infty,\ \infty \right)$

$$H(s) = \frac{C_1 L_1 R_3 R_4 g_m s^2 + C_1 R_1 R_3 R_4 g_m s + R_3 R_4 g_m}{2R_3 g_m + R_4 g_m + s^2 \left( 2C_1 L_1 R_3 g_m + C_1 L_1 R_4 g_m \right) + s \left( 2C_1 R_1 R_3 g_m + C_1 R_1 R_4 g_m + 2C_1 R_3 + C_1 R_4 \right)}$$

**Parameters:**

Q: $\frac{L_1 g_m \sqrt{\frac{1}{C_1 L_1}}}{R_1 g_m + 1}$

wo: $\sqrt{\frac{1}{C_1 L_1}}$

bandwidth: $\frac{R_1 g_m + 1}{L_1 g_m}$

K-LP: $\frac{R_3 R_4}{2R_3 + R_4}$

K-HP: $\frac{R_3 R_4}{2R_3 + R_4}$

K-BP: $\frac{R_1 R_3 R_4 g_m}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4}$

Qz: $\frac{L_1 \sqrt{\frac{1}{C_1 L_1}}}{R_1}$

Wz: $\sqrt{\frac{1}{C_1 L_1}}$

## 6.6  GE-6 $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1},\ \infty,\ R_3,\ R_4,\ \infty,\ \infty \right)$

$$H(s) = \frac{C_1 L_1 R_1 R_3 R_4 g_m s^2 + L_1 R_3 R_4 g_m s + R_1 R_3 R_4 g_m}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4 + s^2 \left( 2C_1 L_1 R_1 R_3 g_m + C_1 L_1 R_1 R_4 g_m + 2C_1 L_1 R_3 + C_1 L_1 R_4 \right) + s \left( 2L_1 R_3 g_m + L_1 R_4 g_m \right)}$$

**Parameters:**

Q: $\frac{C_1 R_1 g_m \sqrt{\frac{1}{C_1 L_1}} + C_1 \sqrt{\frac{1}{C_1 L_1}}}{g_m}$

wo: $\sqrt{\frac{1}{C_1 L_1}}$

bandwidth: $\frac{g_m \sqrt{\frac{1}{C_1 L_1}}}{C_1 R_1 g_m \sqrt{\frac{1}{C_1 L_1}} + C_1 \sqrt{\frac{1}{C_1 L_1}}}$

K-LP: $\frac{R_1 R_3 R_4 g_m}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4}$

K-HP: $\frac{R_1 R_3 R_4 g_m}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4}$

K-BP: $\frac{R_3 R_4}{2R_3 + R_4}$

Qz: $C_1 R_1 \sqrt{\frac{1}{C_1 L_1}}$

Wz: $\sqrt{\frac{1}{C_1 L_1}}$

# 7 AP

# 8 INVALID-NUMER

## 8.1 INVALID-NUMER-1 $Z(s) = \left( R_1, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 R_1 R_3 R_4 g_m s + R_1 R_3 g_m}{R_1 g_m + s^2 \left( C_3 C_4 R_1 R_3 R_4 g_m + C_3 C_4 R_3 R_4 \right) + s \left( C_3 R_1 R_3 g_m + C_3 R_3 + 2C_4 R_1 R_3 g_m + C_4 R_1 R_4 g_m + 2C_4 R_3 + C_4 R_4 \right) + 1}$$

**Parameters:**

Q: $\frac{C_3 C_4 R_3 R_4 \sqrt{\frac{1}{C_3 C_4 R_3 R_4}}}{C_3 R_3 + 2C_4 R_3 + C_4 R_4}$

wo: $\sqrt{\frac{1}{C_3 C_4 R_3 R_4}}$

bandwidth: $\frac{C_3 R_3 + 2C_4 R_3 + C_4 R_4}{C_3 C_4 R_3 R_4}$

K-LP: $\frac{R_1 R_3 g_m}{R_1 g_m + 1}$

K-HP: 0

K-BP: $\frac{C_4 R_1 R_3 R_4 g_m}{C_3 R_1 R_3 g_m + C_3 R_3 + 2C_4 R_1 R_3 g_m + C_4 R_1 R_4 g_m + 2C_4 R_3 + C_4 R_4}$

Qz: None

Wz: None

## 8.2 INVALID-NUMER-2 $Z(s) = \left( R_1, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 R_1 R_3 R_4 g_m s + R_1 R_4 g_m}{2R_1 g_m + s^2 \left( 2C_3 C_4 R_1 R_3 R_4 g_m + 2C_3 C_4 R_3 R_4 \right) + s \left( 2C_3 R_1 R_3 g_m + C_3 R_1 R_4 g_m + 2C_3 R_3 + C_3 R_4 + 2C_4 R_1 R_4 g_m + 2C_4 R_4 \right) + 2}$$

**Parameters:**

Q: $\frac{2C_3 C_4 R_3 R_4 \sqrt{\frac{1}{C_3 C_4 R_3 R_4}}}{2C_3 R_3 + C_3 R_4 + 2C_4 R_4}$

wo: $\sqrt{\frac{1}{C_3 C_4 R_3 R_4}}$

bandwidth: $\frac{2C_3 R_3 + C_3 R_4 + 2C_4 R_4}{2C_3 C_4 R_3 R_4}$

K-LP: $\frac{R_1 R_4 g_m}{2R_1 g_m + 2}$

K-HP: 0

K-BP: $\frac{C_3 R_1 R_3 R_4 g_m}{2C_3 R_1 R_3 g_m + C_3 R_1 R_4 g_m + 2C_3 R_3 + C_3 R_4 + 2C_4 R_1 R_4 g_m + 2C_4 R_4}$

Qz: None

Wz: None

## 8.3 INVALID-NUMER-3 $Z(s) = \left( L_1 s, \ \infty, \ R_3, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 R_3 R_4 g_m s^2 + L_1 R_3 g_m s}{s^2 \left( 2C_4 L_1 R_3 g_m + C_4 L_1 R_4 g_m \right) + s \left( 2C_4 R_3 + C_4 R_4 + L_1 g_m \right) + 1}$$

**Parameters:**

Q: $\frac{2C_4 L_1 R_3 g_m \sqrt{\frac{1}{2C_4 L_1 R_3 g_m + C_4 L_1 R_4 g_m}} + C_4 L_1 R_4 g_m \sqrt{\frac{1}{2C_4 L_1 R_3 g_m + C_4 L_1 R_4 g_m}}}{2C_4 R_3 + C_4 R_4 + L_1 g_m}$

wo: $\sqrt{\frac{1}{2C_4 L_1 R_3 g_m + C_4 L_1 R_4 g_m}}$

bandwidth: $\frac{(2C_4 R_3 + C_4 R_4 + L_1 g_m) \sqrt{\frac{1}{2C_4 L_1 R_3 g_m + C_4 L_1 R_4 g_m}}}{2C_4 L_1 R_3 g_m \sqrt{\frac{1}{2C_4 L_1 R_3 g_m + C_4 L_1 R_4 g_m}} + C_4 L_1 R_4 g_m \sqrt{\frac{1}{2C_4 L_1 R_3 g_m + C_4 L_1 R_4 g_m}}}$

K-LP: 0

K-HP: $\frac{R_3 R_4}{2R_3 + R_4}$

K-BP: $\frac{L_1R_3g_m}{2C_4R_3+C_4R_4+L_1g_m}$
Qz: None
Wz: None

## 8.4 INVALID-NUMER-4 $Z(s) = \left(L_1s,\ \infty,\ \frac{1}{C_3s},\ R_4+\frac{1}{C_4s},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_4L_1R_4g_ms + L_1g_m}{C_3C_4L_1R_4g_ms^2 + C_3 + 2C_4 + s\left(C_3C_4R_4 + C_3L_1g_m + 2C_4L_1g_m\right)}$$

**Parameters:**

Q: $\frac{C_3C_4L_1R_4g_m\sqrt{\frac{1}{C_4L_1R_4g_m}+\frac{2}{C_3L_1R_4g_m}}}{C_3C_4R_4+C_3L_1g_m+2C_4L_1g_m}$

wo: $\sqrt{\frac{C_3+2C_4}{C_3C_4L_1R_4g_m}}$

bandwidth: $\frac{\sqrt{\frac{C_3+2C_4}{C_3C_4L_1R_4g_m}}(C_3C_4R_4+C_3L_1g_m+2C_4L_1g_m)}{C_3C_4L_1R_4g_m\sqrt{\frac{1}{C_4L_1R_4g_m}+\frac{2}{C_3L_1R_4g_m}}}$

K-LP: $\frac{L_1g_m}{C_3+2C_4}$
K-HP: 0
K-BP: $\frac{C_4L_1R_4g_m}{C_3C_4R_4+C_3L_1g_m+2C_4L_1g_m}$
Qz: None
Wz: None

## 8.5 INVALID-NUMER-5 $Z(s) = \left(L_1s,\ \infty,\ R_3+\frac{1}{C_3s},\ R_4,\ \infty,\ \infty\right)$

$$H(s) = \frac{C_3L_1R_3R_4g_ms^2 + L_1R_4g_ms}{s^2\left(2C_3L_1R_3g_m + C_3L_1R_4g_m\right) + s\left(2C_3R_3 + C_3R_4 + 2L_1g_m\right) + 2}$$

**Parameters:**

Q: $\frac{2\sqrt{2}C_3L_1R_3g_m\sqrt{\frac{1}{2C_3L_1R_3g_m+C_3L_1R_4g_m}}+\sqrt{2}C_3L_1R_4g_m\sqrt{\frac{1}{2C_3L_1R_3g_m+C_3L_1R_4g_m}}}{2C_3R_3+C_3R_4+2L_1g_m}$

wo: $\sqrt{2}\sqrt{\frac{1}{2C_3L_1R_3g_m+C_3L_1R_4g_m}}$

bandwidth: $\frac{\sqrt{2}(2C_3R_3+C_3R_4+2L_1g_m)\sqrt{\frac{1}{2C_3L_1R_3g_m+C_3L_1R_4g_m}}}{2\sqrt{2}C_3L_1R_3g_m\sqrt{\frac{1}{2C_3L_1R_3g_m+C_3L_1R_4g_m}}+\sqrt{2}C_3L_1R_4g_m\sqrt{\frac{1}{2C_3L_1R_3g_m+C_3L_1R_4g_m}}}$

K-LP: 0
K-HP: $\frac{R_3R_4}{2R_3+R_4}$
K-BP: $\frac{L_1R_4g_m}{2C_3R_3+C_3R_4+2L_1g_m}$
Qz: None
Wz: None

## 8.6 INVALID-NUMER-6 $Z(s) = \left(L_1s,\ \infty,\ R_3+\frac{1}{C_3s},\ \frac{1}{C_4s},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_3L_1R_3g_ms + L_1g_m}{2C_3C_4L_1R_3g_ms^2 + C_3 + 2C_4 + s\left(2C_3C_4R_3 + C_3L_1g_m + 2C_4L_1g_m\right)}$$

**Parameters:**

Q: $\frac{\sqrt{2}C_3C_4L_1R_3g_m\sqrt{\frac{1}{C_4L_1R_3g_m}+\frac{2}{C_3L_1R_3g_m}}}{2C_3C_4R_3+C_3L_1g_m+2C_4L_1g_m}$

wo: $\frac{\sqrt{2}\sqrt{\frac{C_3+2C_4}{C_3C_4L_1R_3g_m}}}{2}$

bandwidth: $\frac{\sqrt{\frac{C_3+2C_4}{C_3C_4L_1R_3g_m}}(2C_3C_4R_3+C_3L_1g_m+2C_4L_1g_m)}{2C_3C_4L_1R_3g_m\sqrt{\frac{1}{C_4L_1R_3g_m}+\frac{2}{C_3L_1R_3g_m}}}$

K-LP: $\frac{L_1g_m}{C_3+2C_4}$
K-HP: 0
K-BP: $\frac{C_3L_1R_3g_m}{2C_3C_4R_3+C_3L_1g_m+2C_4L_1g_m}$
Qz: None
Wz: None

## 8.7 INVALID-NUMER-7 $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ R_3, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 R_3 R_4 g_m s + R_3 g_m}{g_m + s^2 \left( 2 C_1 C_4 R_3 + C_1 C_4 R_4 \right) + s \left( C_1 + 2 C_4 R_3 g_m + C_4 R_4 g_m \right)}$$

**Parameters:**

Q: $\dfrac{2 C_1 C_4 R_3 \sqrt{\frac{g_m}{2 C_1 C_4 R_3 + C_1 C_4 R_4}} + C_1 C_4 R_4 \sqrt{\frac{g_m}{2 C_1 C_4 R_3 + C_1 C_4 R_4}}}{C_1 + 2 C_4 R_3 g_m + C_4 R_4 g_m}$

wo: $\sqrt{\dfrac{g_m}{2 C_1 C_4 R_3 + C_1 C_4 R_4}}$

bandwidth: $\dfrac{\sqrt{\frac{g_m}{2 C_1 C_4 R_3 + C_1 C_4 R_4}} \left( C_1 + 2 C_4 R_3 g_m + C_4 R_4 g_m \right)}{2 C_1 C_4 R_3 \sqrt{\frac{g_m}{2 C_1 C_4 R_3 + C_1 C_4 R_4}} + C_1 C_4 R_4 \sqrt{\frac{g_m}{2 C_1 C_4 R_3 + C_1 C_4 R_4}}}$

K-LP: $R_3$

K-HP: 0

K-BP: $\dfrac{C_4 R_3 R_4 g_m}{C_1 + 2 C_4 R_3 g_m + C_4 R_4 g_m}$

Qz: None

Wz: None


## 8.8 INVALID-NUMER-8 $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 R_3 R_4 g_m s + R_4 g_m}{2 g_m + s^2 \left( 2 C_1 C_3 R_3 + C_1 C_3 R_4 \right) + s \left( 2 C_1 + 2 C_3 R_3 g_m + C_3 R_4 g_m \right)}$$

**Parameters:**

Q: $\dfrac{2 \sqrt{2} C_1 C_3 R_3 \sqrt{\frac{g_m}{2 C_1 C_3 R_3 + C_1 C_3 R_4}} + \sqrt{2} C_1 C_3 R_4 \sqrt{\frac{g_m}{2 C_1 C_3 R_3 + C_1 C_3 R_4}}}{2 C_1 + 2 C_3 R_3 g_m + C_3 R_4 g_m}$

wo: $\sqrt{2} \sqrt{\dfrac{g_m}{2 C_1 C_3 R_3 + C_1 C_3 R_4}}$

bandwidth: $\dfrac{\sqrt{2} \sqrt{\frac{g_m}{2 C_1 C_3 R_3 + C_1 C_3 R_4}} \left( 2 C_1 + 2 C_3 R_3 g_m + C_3 R_4 g_m \right)}{2 \sqrt{2} C_1 C_3 R_3 \sqrt{\frac{g_m}{2 C_1 C_3 R_3 + C_1 C_3 R_4}} + \sqrt{2} C_1 C_3 R_4 \sqrt{\frac{g_m}{2 C_1 C_3 R_3 + C_1 C_3 R_4}}}$

K-LP: $\frac{R_4}{2}$

K-HP: 0

K-BP: $\dfrac{C_3 R_3 R_4 g_m}{2 C_1 + 2 C_3 R_3 g_m + C_3 R_4 g_m}$

Qz: None

Wz: None


## 8.9 INVALID-NUMER-9 $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ R_3, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 R_1 R_3 R_4 g_m s + R_1 R_3 g_m}{R_1 g_m + s^2 \left( 2 C_1 C_4 R_1 R_3 + C_1 C_4 R_1 R_4 \right) + s \left( C_1 R_1 + 2 C_4 R_1 R_3 g_m + C_4 R_1 R_4 g_m + 2 C_4 R_3 + C_4 R_4 \right) + 1}$$

**Parameters:**

Q: $\dfrac{2 C_1 C_4 R_1 R_3 \sqrt{\frac{R_1 g_m}{2 C_1 C_4 R_1 R_3 + C_1 C_4 R_1 R_4} + \frac{1}{2 C_1 C_4 R_1 R_3 + C_1 C_4 R_1 R_4}} + C_1 C_4 R_1 R_4 \sqrt{\frac{R_1 g_m}{2 C_1 C_4 R_1 R_3 + C_1 C_4 R_1 R_4} + \frac{1}{2 C_1 C_4 R_1 R_3 + C_1 C_4 R_1 R_4}}}{C_1 R_1 + 2 C_4 R_1 R_3 g_m + C_4 R_1 R_4 g_m + 2 C_4 R_3 + C_4 R_4}$

wo: $\sqrt{\dfrac{R_1 g_m + 1}{2 C_1 C_4 R_1 R_3 + C_1 C_4 R_1 R_4}}$

bandwidth: $\dfrac{\sqrt{\frac{R_1 g_m + 1}{2 C_1 C_4 R_1 R_3 + C_1 C_4 R_1 R_4}} \left( C_1 R_1 + 2 C_4 R_1 R_3 g_m + C_4 R_1 R_4 g_m + 2 C_4 R_3 + C_4 R_4 \right)}{2 C_1 C_4 R_1 R_3 \sqrt{\frac{R_1 g_m}{2 C_1 C_4 R_1 R_3 + C_1 C_4 R_1 R_4} + \frac{1}{2 C_1 C_4 R_1 R_3 + C_1 C_4 R_1 R_4}} + C_1 C_4 R_1 R_4 \sqrt{\frac{R_1 g_m}{2 C_1 C_4 R_1 R_3 + C_1 C_4 R_1 R_4} + \frac{1}{2 C_1 C_4 R_1 R_3 + C_1 C_4 R_1 R_4}}}$

K-LP: $\frac{R_1 R_3 g_m}{R_1 g_m + 1}$

K-HP: 0

K-BP: $\dfrac{C_4 R_1 R_3 R_4 g_m \sqrt{\frac{g_m}{2 C_1 C_4 R_3 + C_1 C_4 R_4} + \frac{1}{2 C_1 C_4 R_1 R_3 + C_1 C_4 R_1 R_4}}}{C_1 R_1 \sqrt{\frac{R_1 g_m}{2 C_1 C_4 R_1 R_3 + C_1 C_4 R_1 R_4} + \frac{1}{2 C_1 C_4 R_1 R_3 + C_1 C_4 R_1 R_4}} + 2 C_4 R_1 R_3 g_m \sqrt{\frac{R_1 g_m}{2 C_1 C_4 R_1 R_3 + C_1 C_4 R_1 R_4} + \frac{1}{2 C_1 C_4 R_1 R_3 + C_1 C_4 R_1 R_4}} + C_4 R_1 R_4 g_m \sqrt{\frac{R_1 g_m}{2 C_1 C_4 R_1 R_3 + C_1 C_4 R_1 R_4} + \frac{1}{2 C_1 C_4 R_1 R_3 + C_1 C_4 R_1 R_4}} + 2 C_4 R_3 \sqrt{\frac{R_1 g_m}{2 C_1 C_4 R_1 R_3 + C_1 C_4 R_1 R_4} + \frac{1}{2 C_1 C_4 R_1 R_3 + C_1 C_4 R_1 R_4}} + C_4 R_4 \sqrt{\frac{R_1 g_m}{2 C_1 C_4 R_1 R_3 + C_1 C_4 R_1 R_4} + \frac{1}{2 C_1 C_4 R_1 R_3 + C_1 C_4 R_1 R_4}}}}$

Qz: None

Wz: None

## 8.10 INVALID-NUMER-10 $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 R_1 R_3 R_4 g_m s + R_1 R_4 g_m}{2 R_1 g_m + s^2 \left( 2 C_1 C_3 R_1 R_3 + C_1 C_3 R_1 R_4 \right) + s \left( 2 C_1 R_1 + 2 C_3 R_1 R_3 g_m + C_3 R_1 R_4 g_m + 2 C_3 R_3 + C_3 R_4 \right) + 2}$$

**Parameters:**

Q: $\dfrac{2\sqrt{2} C_1 C_3 R_1 R_3 \sqrt{\frac{R_1 g_m}{2 C_1 C_3 R_1 R_3 + C_1 C_3 R_1 R_4} + \frac{1}{2 C_1 C_3 R_1 R_3 + C_1 C_3 R_1 R_4}} + \sqrt{2} C_1 C_3 R_1 R_4 \sqrt{\frac{R_1 g_m}{2 C_1 C_3 R_1 R_3 + C_1 C_3 R_1 R_4} + \frac{1}{2 C_1 C_3 R_1 R_3 + C_1 C_3 R_1 R_4}}}{2 C_1 R_1 + 2 C_3 R_1 R_3 g_m + C_3 R_1 R_4 g_m + 2 C_3 R_3 + C_3 R_4}$

wo: $\sqrt{\dfrac{2 R_1 g_m + 2}{2 C_1 C_3 R_1 R_3 + C_1 C_3 R_1 R_4}}$

bandwidth: $\dfrac{\sqrt{\frac{2 R_1 g_m + 2}{2 C_1 C_3 R_1 R_3 + C_1 C_3 R_1 R_4}} \left( 2 C_1 R_1 + 2 C_3 R_1 R_3 g_m + C_3 R_1 R_4 g_m + 2 C_3 R_3 + C_3 R_4 \right)}{2\sqrt{2} C_1 C_3 R_1 R_3 \sqrt{\frac{R_1 g_m}{2 C_1 C_3 R_1 R_3 + C_1 C_3 R_1 R_4} + \frac{1}{2 C_1 C_3 R_1 R_3 + C_1 C_3 R_1 R_4}} + \sqrt{2} C_1 C_3 R_1 R_4 \sqrt{\frac{R_1 g_m}{2 C_1 C_3 R_1 R_3 + C_1 C_3 R_1 R_4} + \frac{1}{2 C_1 C_3 R_1 R_3 + C_1 C_3 R_1 R_4}}}$

K-LP: $\frac{R_1 R_4 g_m}{2 R_1 g_m + 2}$

K-HP: 0

K-BP: $\dfrac{C_3 R_1 R_3 R_4 g_m \sqrt{\frac{g_m}{2 C_1 C_3 R_3 + C_1 C_3 R_4} + \frac{1}{2 C_1 C_3 R_1 R_3 + C_1 C_3 R_1 R_4}}}{2 C_1 R_1 \sqrt{\frac{R_1 g_m}{2 C_1 C_3 R_1 R_3 + C_1 C_3 R_1 R_4} + \frac{1}{2 C_1 C_3 R_1 R_3 + C_1 C_3 R_1 R_4}} + 2 C_3 R_1 R_3 g_m \sqrt{\frac{R_1 g_m}{2 C_1 C_3 R_1 R_3 + C_1 C_3 R_1 R_4} + \frac{1}{2 C_1 C_3 R_1 R_3 + C_1 C_3 R_1 R_4}} + C_3 R_1 R_4 g_m \sqrt{\frac{R_1 g_m}{2 C_1 C_3 R_1 R_3 + C_1 C_3 R_1 R_4} + \frac{1}{2 C_1 C_3 R_1 R_3 + C_1 C_3 R_1 R_4}} + 2 C_3 R_3 \sqrt{\frac{R_1 g_m}{2 C_1 C_3 R_1 R_3 + C_1 C_3 R_1 R_4} + \frac{1}{2 C_1 C_3 R_1 R_3 + C_1 C_3 R_1 R_4}} + C_3 R_4 \sqrt{\frac{R_1 g_m}{2 C_1 C_3 R_1 R_3 + C_1 C_3 R_1 R_4} + \frac{1}{2 C_1 C_3 R_1 R_3 + C_1 C_3 R_1 R_4}}}$

Qz: None

Wz: None

## 8.11 INVALID-NUMER-11 $Z(s) = \left( R_1 + \frac{1}{C_1 s}, \ \infty, \ R_3, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 R_1 R_3 g_m s + R_3 g_m}{g_m + s^2 \left( 2 C_1 C_4 R_1 R_3 g_m + 2 C_1 C_4 R_3 \right) + s \left( C_1 R_1 g_m + C_1 + 2 C_4 R_3 g_m \right)}$$

**Parameters:**

Q: $\dfrac{\sqrt{2} C_1 C_4 R_1 R_3 g_m \sqrt{\frac{g_m}{C_1 C_4 R_1 R_3 g_m + C_1 C_4 R_3}} + \sqrt{2} C_1 C_4 R_3 \sqrt{\frac{g_m}{C_1 C_4 R_1 R_3 g_m + C_1 C_4 R_3}}}{C_1 R_1 g_m + C_1 + 2 C_4 R_3 g_m}$

wo: $\sqrt{\dfrac{g_m}{2 C_1 C_4 R_1 R_3 g_m + 2 C_1 C_4 R_3}}$

bandwidth: $\dfrac{\sqrt{\frac{g_m}{2 C_1 C_4 R_1 R_3 g_m + 2 C_1 C_4 R_3}} \left( C_1 R_1 g_m + C_1 + 2 C_4 R_3 g_m \right)}{\sqrt{2} C_1 C_4 R_1 R_3 g_m \sqrt{\frac{g_m}{C_1 C_4 R_1 R_3 g_m + C_1 C_4 R_3}} + \sqrt{2} C_1 C_4 R_3 \sqrt{\frac{g_m}{C_1 C_4 R_1 R_3 g_m + C_1 C_4 R_3}}}$

K-LP: $R_3$

K-HP: 0

K-BP: $\dfrac{C_1 R_1 R_3 g_m}{C_1 R_1 g_m + C_1 + 2 C_4 R_3 g_m}$

Qz: None

Wz: None

## 8.12 INVALID-NUMER-12 $Z(s) = \left( R_1 + \frac{1}{C_1 s}, \ \infty, \ R_3, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 R_1 R_3 R_4 g_m s + R_3 R_4 g_m}{2 R_3 g_m + R_4 g_m + s^2 \left( 2 C_1 C_4 R_1 R_3 R_4 g_m + 2 C_1 C_4 R_3 R_4 \right) + s \left( 2 C_1 R_1 R_3 g_m + C_1 R_1 R_4 g_m + 2 C_1 R_3 + C_1 R_4 + 2 C_4 R_3 R_4 g_m \right)}$$

**Parameters:**

Q: $\dfrac{\sqrt{2} C_1 C_4 R_1 R_3 R_4 g_m \sqrt{\frac{2 R_3 g_m}{C_1 C_4 R_1 R_3 R_4 g_m + C_1 C_4 R_3 R_4} + \frac{R_4 g_m}{C_1 C_4 R_1 R_3 R_4 g_m + C_1 C_4 R_3 R_4}} + \sqrt{2} C_1 C_4 R_3 R_4 \sqrt{\frac{2 R_3 g_m}{C_1 C_4 R_1 R_3 R_4 g_m + C_1 C_4 R_3 R_4} + \frac{R_4 g_m}{C_1 C_4 R_1 R_3 R_4 g_m + C_1 C_4 R_3 R_4}}}{2 C_1 R_1 R_3 g_m + C_1 R_1 R_4 g_m + 2 C_1 R_3 + C_1 R_4 + 2 C_4 R_3 R_4 g_m}$

wo: $\sqrt{\dfrac{2 R_3 g_m + R_4 g_m}{2 C_1 C_4 R_1 R_3 R_4 g_m + 2 C_1 C_4 R_3 R_4}}$

bandwidth: $\dfrac{\sqrt{\frac{2 R_3 g_m + R_4 g_m}{2 C_1 C_4 R_1 R_3 R_4 g_m + 2 C_1 C_4 R_3 R_4}} \left( 2 C_1 R_1 R_3 g_m + C_1 R_1 R_4 g_m + 2 C_1 R_3 + C_1 R_4 + 2 C_4 R_3 R_4 g_m \right)}{\sqrt{2} C_1 C_4 R_1 R_3 R_4 g_m \sqrt{\frac{2 R_3 g_m}{C_1 C_4 R_1 R_3 R_4 g_m + C_1 C_4 R_3 R_4} + \frac{R_4 g_m}{C_1 C_4 R_1 R_3 R_4 g_m + C_1 C_4 R_3 R_4}} + \sqrt{2} C_1 C_4 R_3 R_4 \sqrt{\frac{2 R_3 g_m}{C_1 C_4 R_1 R_3 R_4 g_m + C_1 C_4 R_3 R_4} + \frac{R_4 g_m}{C_1 C_4 R_1 R_3 R_4 g_m + C_1 C_4 R_3 R_4}}}$

K-LP: $\frac{R_3 R_4}{2 R_3 + R_4}$

K-HP: 0

K-BP: $\dfrac{C_1 R_1 R_3 R_4 g_m \sqrt{\frac{2 g_m}{C_1 C_4 R_1 R_4 g_m + C_1 C_4 R_4} + \frac{g_m}{C_1 C_4 R_1 R_3 g_m + C_1 C_4 R_3}}}{2 C_1 R_1 R_3 g_m \sqrt{\frac{2 R_3 g_m}{C_1 C_4 R_1 R_3 R_4 g_m + C_1 C_4 R_3 R_4} + \frac{R_4 g_m}{C_1 C_4 R_1 R_3 R_4 g_m + C_1 C_4 R_3 R_4}} + C_1 R_1 R_4 g_m \sqrt{\frac{2 R_3 g_m}{C_1 C_4 R_1 R_3 R_4 g_m + C_1 C_4 R_3 R_4} + \frac{R_4 g_m}{C_1 C_4 R_1 R_3 R_4 g_m + C_1 C_4 R_3 R_4}} + 2 C_1 R_3 \sqrt{\frac{2 R_3 g_m}{C_1 C_4 R_1 R_3 R_4 g_m + C_1 C_4 R_3 R_4} + \frac{R_4 g_m}{C_1 C_4 R_1 R_3 R_4 g_m + C_1 C_4 R_3 R_4}} + C_1 R_4 \sqrt{\frac{2 R_3 g_m}{C_1 C_4 R_1 R_3 R_4 g_m + C_1 C_4 R_3 R_4} + \frac{R_4 g_m}{C_1 C_4 R_1 R_3 R_4 g_m + C_1 C_4 R_3 R_4}} + 2 C_4 R_3 R_4 g_m \sqrt{\frac{2 R_3 g_m}{C_1 C_4 R_1 R_3 R_4 g_m + \cdots}}}$

Qz: None

Wz: None

## 8.13 INVALID-NUMER-13 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{1}{C_3 s}, \ R_4, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 R_1 R_4 g_m s + R_4 g_m}{2g_m + s^2\left(C_1 C_3 R_1 R_4 g_m + C_1 C_3 R_4\right) + s\left(2C_1 R_1 g_m + 2C_1 + C_3 R_4 g_m\right)}$$

**Parameters:**

Q: $\dfrac{\sqrt{2}C_1 C_3 R_1 R_4 g_m \sqrt{\frac{g_m}{C_1 C_3 R_1 R_4 g_m + C_1 C_3 R_4}} + \sqrt{2}C_1 C_3 R_4 \sqrt{\frac{g_m}{C_1 C_3 R_1 R_4 g_m + C_1 C_3 R_4}}}{2C_1 R_1 g_m + 2C_1 + C_3 R_4 g_m}$

wo: $\sqrt{2}\sqrt{\dfrac{g_m}{C_1 C_3 R_1 R_4 g_m + C_1 C_3 R_4}}$

bandwidth: $\dfrac{\sqrt{2}\sqrt{\frac{g_m}{C_1 C_3 R_1 R_4 g_m + C_1 C_3 R_4}}\left(2C_1 R_1 g_m + 2C_1 + C_3 R_4 g_m\right)}{\sqrt{2}C_1 C_3 R_1 R_4 g_m \sqrt{\frac{g_m}{C_1 C_3 R_1 R_4 g_m + C_1 C_3 R_4}} + \sqrt{2}C_1 C_3 R_4 \sqrt{\frac{g_m}{C_1 C_3 R_1 R_4 g_m + C_1 C_3 R_4}}}$

K-LP: $\frac{R_4}{2}$
K-HP: $0$
K-BP: $\frac{C_1 R_1 R_4 g_m}{2C_1 R_1 g_m + 2C_1 + C_3 R_4 g_m}$
Qz: None
Wz: None

## 8.14 INVALID-NUMER-14 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 R_1 R_4 g_m s + R_4 g_m}{2g_m + s^2\left(C_1 C_3 R_1 R_4 g_m + C_1 C_3 R_4 + 2C_1 C_4 R_1 R_4 g_m + 2C_1 C_4 R_4\right) + s\left(2C_1 R_1 g_m + 2C_1 + C_3 R_4 g_m + 2C_4 R_4 g_m\right)}$$

**Parameters:**

Q: $\dfrac{\sqrt{2}C_1 C_3 R_1 R_4 g_m \sqrt{\frac{g_m}{C_1 C_3 R_1 R_4 g_m + C_1 C_3 R_4 + 2C_1 C_4 R_1 R_4 g_m + 2C_1 C_4 R_4}} + \sqrt{2}C_1 C_3 R_4 \sqrt{\frac{g_m}{C_1 C_3 R_1 R_4 g_m + C_1 C_3 R_4 + 2C_1 C_4 R_1 R_4 g_m + 2C_1 C_4 R_4}} + 2\sqrt{2}C_1 C_4 R_1 R_4 g_m \sqrt{\frac{g_m}{C_1 C_3 R_1 R_4 g_m + C_1 C_3 R_4 + 2C_1 C_4 R_1 R_4 g_m + 2C_1 C_4 R_4}} + 2\sqrt{2}C_1 C_4 R_4 \sqrt{\frac{g_m}{C_1 C_3 R_1 R_4 g_m + C_1 C_3 R_4 + 2C_1 C_4 R_1 R_4 g_m + 2C_1 C_4 R_4}}}{2C_1 R_1 g_m + 2C_1 + C_3 R_4 g_m + 2C_4 R_4 g_m}$

wo: $\sqrt{2}\sqrt{\dfrac{g_m}{C_1 C_3 R_1 R_4 g_m + C_1 C_3 R_4 + 2C_1 C_4 R_1 R_4 g_m + 2C_1 C_4 R_4}}$

bandwidth: $\dfrac{\sqrt{2}\sqrt{\frac{g_m}{C_1 C_3 R_1 R_4 g_m + C_1 C_3 R_4 + 2C_1 C_4 R_1 R_4 g_m + 2C_1 C_4 R_4}}\left(2C_1 R_1 g_m + 2C_1 + C_3 R_4 g_m + 2C_4 R_4 g_m\right)}{\sqrt{2}C_1 C_3 R_1 R_4 g_m \sqrt{\frac{g_m}{C_1 C_3 R_1 R_4 g_m + C_1 C_3 R_4 + 2C_1 C_4 R_1 R_4 g_m + 2C_1 C_4 R_4}} + \sqrt{2}C_1 C_3 R_4 \sqrt{\frac{g_m}{C_1 C_3 R_1 R_4 g_m + C_1 C_3 R_4 + 2C_1 C_4 R_1 R_4 g_m + 2C_1 C_4 R_4}} + 2\sqrt{2}C_1 C_4 R_1 R_4 g_m \sqrt{\frac{g_m}{C_1 C_3 R_1 R_4 g_m + C_1 C_3 R_4 + 2C_1 C_4 R_1 R_4 g_m + 2C_1 C_4 R_4}} + 2\sqrt{2}C_1 C_4 R_4 \sqrt{\frac{g_m}{C_1 C_3 R_1 R_4 g_m + C_1 C_3 R_4 + 2C_1 C_4 R_1 R_4 g_m + 2C_1 C_4 R_4}}}$

K-LP: $\frac{R_4}{2}$
K-HP: $0$
K-BP: $\frac{C_1 R_1 R_4 g_m}{2C_1 R_1 g_m + 2C_1 + C_3 R_4 g_m + 2C_4 R_4 g_m}$
Qz: None
Wz: None

## 8.15 INVALID-NUMER-15 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ R_4, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 R_1 R_3 R_4 g_m s + R_3 R_4 g_m}{2R_3 g_m + R_4 g_m + s^2\left(C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4\right) + s\left(2C_1 R_1 R_3 g_m + C_1 R_1 R_4 g_m + 2C_1 R_3 + C_1 R_4 + C_3 R_3 R_4 g_m\right)}$$

**Parameters:**

Q: $\dfrac{C_1 C_3 R_1 R_3 R_4 g_m \sqrt{\frac{2R_3 g_m}{C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4} + \frac{R_4 g_m}{C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4}} + C_1 C_3 R_3 R_4 \sqrt{\frac{2R_3 g_m}{C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4} + \frac{R_4 g_m}{C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4}}}{2C_1 R_1 R_3 g_m + C_1 R_1 R_4 g_m + 2C_1 R_3 + C_1 R_4 + C_3 R_3 R_4 g_m}$

wo: $\sqrt{\dfrac{2R_3 g_m + R_4 g_m}{C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4}}$

bandwidth: $\dfrac{\sqrt{\frac{2R_3 g_m + R_4 g_m}{C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4}}\left(2C_1 R_1 R_3 g_m + C_1 R_1 R_4 g_m + 2C_1 R_3 + C_1 R_4 + C_3 R_3 R_4 g_m\right)}{C_1 C_3 R_1 R_3 R_4 g_m \sqrt{\frac{2R_3 g_m}{C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4} + \frac{R_4 g_m}{C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4}} + C_1 C_3 R_3 R_4 \sqrt{\frac{2R_3 g_m}{C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4} + \frac{R_4 g_m}{C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4}}}$

K-LP: $\frac{R_3 R_4}{2R_3 + R_4}$
K-HP: $0$

K-BP: $\dfrac{C_1 R_1 R_3 R_4 g_m \sqrt{\frac{2g_m}{C_1 C_3 R_1 R_4 g_m + C_1 C_3 R_4} + \frac{g_m}{C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_3}}}{2C_1 R_1 R_3 g_m \sqrt{\frac{2R_3 g_m}{C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4} + \frac{R_4 g_m}{C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4}} + C_1 R_1 R_4 g_m \sqrt{\frac{2R_3 g_m}{C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4} + \frac{R_4 g_m}{C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4}} + 2C_1 R_3 \sqrt{\frac{2R_3 g_m}{C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4} + \frac{R_4 g_m}{C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4}} + C_1 R_4 \sqrt{\frac{2R_3 g_m}{C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4} + \frac{R_4 g_m}{C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4}} + C_3 R_3 R_4 g_m \sqrt{\frac{2R_3 g_m}{C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4}}}$

Qz: None
Wz: None

## 8.16 INVALID-NUMER-16 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 R_1 R_3 g_m s + R_3 g_m}{g_m + s^2\left(C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_3 + 2C_1 C_4 R_1 R_3 g_m + 2C_1 C_4 R_3\right) + s\left(C_1 R_1 g_m + C_1 + C_3 R_3 g_m + 2C_4 R_3 g_m\right)}$$

**Parameters:**

Q: $\dfrac{C_1 C_3 R_1 R_3 g_m \sqrt{\frac{g_m}{C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_3 + 2C_1 C_4 R_1 R_3 g_m + 2C_1 C_4 R_3}} + C_1 C_3 R_3 \sqrt{\frac{g_m}{C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_3 + 2C_1 C_4 R_1 R_3 g_m + 2C_1 C_4 R_3}} + 2C_1 C_4 R_1 R_3 g_m \sqrt{\frac{g_m}{C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_3 + 2C_1 C_4 R_1 R_3 g_m + 2C_1 C_4 R_3}} + 2C_1 C_4 R_3 \sqrt{\frac{g_m}{C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_3 + 2C_1 C_4 R_1 R_3 g_m + 2C_1 C_4 R_3}}}{C_1 R_1 g_m + C_1 + C_3 R_3 g_m + 2C_4 R_3 g_m}$

wo: $\sqrt{\dfrac{g_m}{C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_3 + 2C_1 C_4 R_1 R_3 g_m + 2C_1 C_4 R_3}}$

bandwidth: $\dfrac{\sqrt{\frac{g_m}{C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_3 + 2C_1 C_4 R_1 R_3 g_m + 2C_1 C_4 R_3}}\,(C_1 R_1 g_m + C_1 + C_3 R_3 g_m + 2C_4 R_3 g_m)}{C_1 C_3 R_1 R_3 g_m \sqrt{\frac{g_m}{C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_3 + 2C_1 C_4 R_1 R_3 g_m + 2C_1 C_4 R_3}} + C_1 C_3 R_3 \sqrt{\frac{g_m}{C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_3 + 2C_1 C_4 R_1 R_3 g_m + 2C_1 C_4 R_3}} + 2C_1 C_4 R_1 R_3 g_m \sqrt{\frac{g_m}{C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_3 + 2C_1 C_4 R_1 R_3 g_m + 2C_1 C_4 R_3}} + 2C_1 C_4 R_3 \sqrt{\frac{g_m}{C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_3 + 2C_1 C_4 R_1 R_3 g_m + 2C_1 C_4 R_3}}}$

K-LP: $R_3$

K-HP: $0$

K-BP: $\dfrac{C_1 R_1 R_3 g_m}{C_1 R_1 g_m + C_1 + C_3 R_3 g_m + 2C_4 R_3 g_m}$

Qz: None

Wz: None

## 8.17 INVALID-NUMER-17 $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 R_1 R_3 R_4 g_m s + R_3 R_4 g_m}{2R_3 g_m + R_4 g_m + s^2\left(C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4 + 2C_1 C_4 R_1 R_3 R_4 g_m + 2C_1 C_4 R_3 R_4\right) + s\left(2C_1 R_1 R_3 g_m + C_1 R_1 R_4 g_m + 2C_1 R_3 + C_1 R_4 + C_3 R_3 R_4 g_m + 2C_4 R_3 R_4 g_m\right)}$$

**Parameters:**

Q: $\dfrac{C_1 C_3 R_1 R_3 R_4 g_m \sqrt{\frac{2R_3 g_m}{C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4 + 2C_1 C_4 R_1 R_3 R_4 g_m + 2C_1 C_4 R_3 R_4} + \frac{R_4 g_m}{C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4 + 2C_1 C_4 R_1 R_3 R_4 g_m + 2C_1 C_4 R_3 R_4}} + C_1 C_3 R_3 R_4 \sqrt{\frac{2R_3 g_m}{C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4 + 2C_1 C_4 R_1 R_3 R_4 g_m + 2C_1 C_4 R_3 R_4} + \frac{R_4 g_m}{C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4 + 2C_1 C_4 R_1 R_3 R_4 g_m + 2C_1 C_4 R_3 R_4}} + 2C_1 C_4 R_1 R_3 R_4 g_m \sqrt{\frac{2R_3 g_m}{C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4 \cdots}} + \cdots}{2C_1 R_1 R_3 g_m + C_1 R_1 R_4 g_m + 2C_1 R_3 + C_1 R_4 + C_3 R_3 R_4 g_m + 2C_4 R_3 R_4 g_m}$

wo: $\sqrt{\dfrac{2R_3 g_m + R_4 g_m}{C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4 + 2C_1 C_4 R_1 R_3 R_4 g_m + 2C_1 C_4 R_3 R_4}}$

bandwidth: $\dfrac{\sqrt{\frac{2R_3 g_m + R_4 g_m}{C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4 + 2C_1 C_4 R_1 R_3 R_4 g_m + 2C_1 C_4 R_3 R_4}}\,(2C_1 R_1 R_3 g_m + C_1 R_1 R_4 g_m + 2C_1 R_3 + C_1 R_4 + \cdots)}{C_1 C_3 R_1 R_3 R_4 g_m \sqrt{\frac{2R_3 g_m}{C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4 + 2C_1 C_4 R_1 R_3 R_4 g_m + 2C_1 C_4 R_3 R_4} + \frac{R_4 g_m}{C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4 + 2C_1 C_4 R_1 R_3 R_4 g_m + 2C_1 C_4 R_3 R_4}} + C_1 C_3 R_3 R_4 \sqrt{\cdots} + 2C_1 C_4 R_1 R_3 R_4 g_m \sqrt{\cdots}}$

K-LP: $\dfrac{R_3 R_4}{2R_3 + R_4}$

K-HP: $0$

K-BP: $\dfrac{C_1 R_1 R_3 R_4 g_m}{2C_1 R_1 R_3 g_m \sqrt{\frac{2R_3 g_m}{C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4 + 2C_1 C_4 R_1 R_3 R_4 g_m + 2C_1 C_4 R_3 R_4} + \frac{R_4 g_m}{C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4 + 2C_1 C_4 R_1 R_3 R_4 g_m + 2C_1 C_4 R_3 R_4}} + C_1 R_1 R_4 g_m \sqrt{\cdots} + 2C_1 R_3 \sqrt{\cdots}}$

Qz: None

Wz: None

# 9 INVALID-WZ

## 9.1 INVALID-WZ-1 $Z(s) = \left(L_1 s, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_1 R_3 R_4 g_m s^2 + L_1 g_m + s\left(C_3 L_1 R_3 g_m + C_4 L_1 R_4 g_m\right)}{C_3 + 2C_4 + s^2\left(2C_3 C_4 L_1 R_3 g_m + C_3 C_4 L_1 R_4 g_m\right) + s\left(2C_3 C_4 R_3 + C_3 C_4 R_4 + C_3 L_1 g_m + 2C_4 L_1 g_m\right)}$$

**Parameters:**

Q: $\dfrac{2C_3 C_4 L_1 R_3 g_m \sqrt{\frac{C_3}{2C_3 C_4 L_1 R_3 g_m + C_3 C_4 L_1 R_4 g_m} + \frac{2C_4}{2C_3 C_4 L_1 R_3 g_m + C_3 C_4 L_1 R_4 g_m}} + C_3 C_4 L_1 R_4 g_m \sqrt{\frac{C_3}{2C_3 C_4 L_1 R_3 g_m + C_3 C_4 L_1 R_4 g_m} + \frac{2C_4}{2C_3 C_4 L_1 R_3 g_m + C_3 C_4 L_1 R_4 g_m}}}{2C_3 C_4 R_3 + C_3 C_4 R_4 + C_3 L_1 g_m + 2C_4 L_1 g_m}$

wo: $\sqrt{\dfrac{C_3 + 2C_4}{2C_3 C_4 L_1 R_3 g_m + C_3 C_4 L_1 R_4 g_m}}$

bandwidth: $\dfrac{\sqrt{\frac{C_3 + 2C_4}{2C_3 C_4 L_1 R_3 g_m + C_3 C_4 L_1 R_4 g_m}}\,(2C_3 C_4 R_3 + C_3 C_4 R_4 + C_3 L_1 g_m + 2C_4 L_1 g_m)}{2C_3 C_4 L_1 R_3 g_m \sqrt{\frac{C_3}{2C_3 C_4 L_1 R_3 g_m + C_3 C_4 L_1 R_4 g_m} + \frac{2C_4}{2C_3 C_4 L_1 R_3 g_m + C_3 C_4 L_1 R_4 g_m}} + C_3 C_4 L_1 R_4 g_m \sqrt{\frac{C_3}{2C_3 C_4 L_1 R_3 g_m + C_3 C_4 L_1 R_4 g_m} + \frac{2C_4}{2C_3 C_4 L_1 R_3 g_m + C_3 C_4 L_1 R_4 g_m}}}$

K-LP: $\dfrac{L_1 g_m}{C_3 + 2C_4}$

K-HP: $\dfrac{R_3 R_4}{2R_3 + R_4}$

K-BP: $\dfrac{C_3 L_1 R_3 g_m \sqrt{\frac{1}{2C_4 L_1 R_3 g_m + C_4 L_1 R_4 g_m} + \frac{2}{2C_3 L_1 R_3 g_m + C_3 L_1 R_4 g_m}} + C_4 L_1 R_4 g_m \sqrt{\frac{1}{2C_4 L_1 R_3 g_m + C_4 L_1 R_4 g_m} + \frac{2}{2C_3 L_1 R_3 g_m + C_3 L_1 R_4 g_m}}}{2C_3 C_4 R_3 \sqrt{\frac{C_3}{2C_3 C_4 L_1 R_3 g_m + C_3 C_4 L_1 R_4 g_m} + \frac{2C_4}{2C_3 C_4 L_1 R_3 g_m + C_3 C_4 L_1 R_4 g_m}} + C_3 C_4 R_4 \sqrt{\frac{C_3}{2C_3 C_4 L_1 R_3 g_m + C_3 C_4 L_1 R_4 g_m} + \frac{2C_4}{2C_3 C_4 L_1 R_3 g_m + C_3 C_4 L_1 R_4 g_m}} + C_3 L_1 g_m \sqrt{\frac{C_3}{2C_3 C_4 L_1 R_3 g_m + C_3 C_4 L_1 R_4 g_m} + \frac{2C_4}{2C_3 C_4 L_1 R_3 g_m + C_3 C_4 L_1 R_4 g_m}} + 2C_4 L_1 g_m \sqrt{\frac{C_3}{2C_3 C_4 L_1 R_3 g_m + C_3 C_4 L_1 R_4 g_m} + \frac{2C_4}{2C_3 C_4 L_1 R_3 g_m + C_3 C_4 L_1 R_4 g_m}}}$

Qz: None

Wz: $\sqrt{\dfrac{1}{C_3 C_4 R_3 R_4}}$

## 9.2 INVALID-WZ-2 $Z(s) = \left( R_1 + \frac{1}{C_1 s}, \ \infty, \ R_3, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_4 R_1 R_3 R_4 g_m s^2 + R_3 g_m + s\left(C_1 R_1 R_3 g_m + C_4 R_3 R_4 g_m\right)}{g_m + s^2\left(2C_1 C_4 R_1 R_3 g_m + C_1 C_4 R_1 R_4 g_m + 2C_1 C_4 R_3 + C_1 C_4 R_4\right) + s\left(C_1 R_1 g_m + C_1 + 2C_4 R_3 g_m + C_4 R_4 g_m\right)}$$

**Parameters:**

Q: $\dfrac{2C_1 C_4 R_1 R_3 g_m \sqrt{\frac{g_m}{2C_1 C_4 R_1 R_3 g_m + C_1 C_4 R_1 R_4 g_m + 2C_1 C_4 R_3 + C_1 C_4 R_4}} + C_1 C_4 R_1 R_4 g_m \sqrt{\frac{g_m}{2C_1 C_4 R_1 R_3 g_m + C_1 C_4 R_1 R_4 g_m + 2C_1 C_4 R_3 + C_1 C_4 R_4}} + 2C_1 C_4 R_3 \sqrt{\frac{g_m}{2C_1 C_4 R_1 R_3 g_m + C_1 C_4 R_1 R_4 g_m + 2C_1 C_4 R_3 + C_1 C_4 R_4}} + C_1 C_4 R_4 \sqrt{\frac{g_m}{2C_1 C_4 R_1 R_3 g_m + C_1 C_4 R_1 R_4 g_m + 2C_1 C_4 R_3 + C_1 C_4 R_4}}}{C_1 R_1 g_m + C_1 + 2C_4 R_3 g_m + C_4 R_4 g_m}$

wo: $\sqrt{\dfrac{g_m}{2C_1 C_4 R_1 R_3 g_m + C_1 C_4 R_1 R_4 g_m + 2C_1 C_4 R_3 + C_1 C_4 R_4}}$

bandwidth: $\dfrac{\sqrt{\frac{g_m}{2C_1 C_4 R_1 R_3 g_m + C_1 C_4 R_1 R_4 g_m + 2C_1 C_4 R_3 + C_1 C_4 R_4}}\left(C_1 R_1 g_m + C_1 + 2C_4 R_3 g_m + C_4 R_4 g_m\right)}{2C_1 C_4 R_1 R_3 g_m \sqrt{\frac{g_m}{2C_1 C_4 R_1 R_3 g_m + C_1 C_4 R_1 R_4 g_m + 2C_1 C_4 R_3 + C_1 C_4 R_4}} + C_1 C_4 R_1 R_4 g_m \sqrt{\frac{g_m}{2C_1 C_4 R_1 R_3 g_m + C_1 C_4 R_1 R_4 g_m + 2C_1 C_4 R_3 + C_1 C_4 R_4}} + 2C_1 C_4 R_3 \sqrt{\frac{g_m}{2C_1 C_4 R_1 R_3 g_m + C_1 C_4 R_1 R_4 g_m + 2C_1 C_4 R_3 + C_1 C_4 R_4}} + C_1 C_4 R_4 \sqrt{\frac{g_m}{2C_1 C_4 R_1 R_3 g_m + C_1 C_4 R_1 R_4 g_m + 2C_1 C_4 R_3 + C_1 C_4 R_4}}}$

K-LP: $R_3$

K-HP: $\dfrac{R_1 R_3 R_4 g_m}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4}$

K-BP: $\dfrac{C_1 R_1 R_3 g_m + C_4 R_3 R_4 g_m}{C_1 R_1 g_m + C_1 + 2C_4 R_3 g_m + C_4 R_4 g_m}$

Qz: None

Wz: $\sqrt{\dfrac{1}{C_1 C_4 R_1 R_4}}$

## 9.3 INVALID-WZ-3 $Z(s) = \left( R_1 + \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 R_1 R_3 R_4 g_m s^2 + R_4 g_m + s\left(C_1 R_1 R_4 g_m + C_3 R_3 R_4 g_m\right)}{2g_m + s^2\left(2C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_1 R_4 g_m + 2C_1 C_3 R_3 + C_1 C_3 R_4\right) + s\left(2C_1 R_1 g_m + 2C_1 + 2C_3 R_3 g_m + C_3 R_4 g_m\right)}$$

**Parameters:**

Q: $\dfrac{2\sqrt{2}C_1 C_3 R_1 R_3 g_m \sqrt{\frac{g_m}{2C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_1 R_4 g_m + 2C_1 C_3 R_3 + C_1 C_3 R_4}} + \sqrt{2}C_1 C_3 R_1 R_4 g_m \sqrt{\frac{g_m}{2C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_1 R_4 g_m + 2C_1 C_3 R_3 + C_1 C_3 R_4}} + 2\sqrt{2}C_1 C_3 R_3 \sqrt{\frac{g_m}{2C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_1 R_4 g_m + 2C_1 C_3 R_3 + C_1 C_3 R_4}} + \sqrt{2}C_1 C_3 R_4 \sqrt{\frac{g_m}{2C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_1 R_4 g_m + 2C_1 C_3 R_3 + C_1 C_3 R_4}}}{2C_1 R_1 g_m + 2C_1 + 2C_3 R_3 g_m + C_3 R_4 g_m}$

wo: $\sqrt{2}\sqrt{\dfrac{g_m}{2C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_1 R_4 g_m + 2C_1 C_3 R_3 + C_1 C_3 R_4}}$

bandwidth: $\dfrac{\sqrt{2}\sqrt{\frac{g_m}{2C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_1 R_4 g_m + 2C_1 C_3 R_3 + C_1 C_3 R_4}}\left(2C_1 R_1 g_m + 2C_1 + 2C_3 R_3 g_m + C_3 R_4 g_m\right)}{2\sqrt{2}C_1 C_3 R_1 R_3 g_m \sqrt{\frac{g_m}{2C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_1 R_4 g_m + 2C_1 C_3 R_3 + C_1 C_3 R_4}} + \sqrt{2}C_1 C_3 R_1 R_4 g_m \sqrt{\frac{g_m}{2C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_1 R_4 g_m + 2C_1 C_3 R_3 + C_1 C_3 R_4}} + 2\sqrt{2}C_1 C_3 R_3 \sqrt{\frac{g_m}{2C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_1 R_4 g_m + 2C_1 C_3 R_3 + C_1 C_3 R_4}} + \sqrt{2}C_1 C_3 R_4 \sqrt{\frac{g_m}{2C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_1 R_4 g_m + 2C_1 C_3 R_3 + C_1 C_3 R_4}}}$

K-LP: $\frac{R_4}{2}$

K-HP: $\dfrac{R_1 R_3 R_4 g_m}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4}$

K-BP: $\dfrac{C_1 R_1 R_4 g_m + C_3 R_3 R_4 g_m}{2C_1 R_1 g_m + 2C_1 + 2C_3 R_3 g_m + C_3 R_4 g_m}$

Qz: None

Wz: $\sqrt{\dfrac{1}{C_1 C_3 R_1 R_3}}$

# 10 INVALID-ORDER

## 10.1 INVALID-ORDER-1 $Z(s) = \left( R_1, \ \infty, \ R_3, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{R_1 R_3 R_4 g_m}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4}$$

## 10.2 INVALID-ORDER-2 $Z(s) = \left( R_1, \ \infty, \ R_3, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{R_1 R_3 g_m}{R_1 g_m + s\left(2C_4 R_1 R_3 g_m + 2C_4 R_3\right) + 1}$$

## 10.3 INVALID-ORDER-3 $Z(s) = \left( R_1, \ \infty, \ R_3, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{R_1 R_3 R_4 g_m}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4 + s\left(2C_4 R_1 R_3 R_4 g_m + 2C_4 R_3 R_4\right)}$$

**10.4 INVALID-ORDER-4** $Z(s) = \left(R_1,\ \infty,\ R_3,\ R_4 + \frac{1}{C_4 s},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_4 R_1 R_3 R_4 g_m s + R_1 R_3 g_m}{R_1 g_m + s\left(2C_4 R_1 R_3 g_m + C_4 R_1 R_4 g_m + 2C_4 R_3 + C_4 R_4\right) + 1}$$

**10.5 INVALID-ORDER-5** $Z(s) = \left(R_1,\ \infty,\ \frac{1}{C_3 s},\ R_4,\ \infty,\ \infty\right)$

$$H(s) = \frac{R_1 R_4 g_m}{2R_1 g_m + s\left(C_3 R_1 R_4 g_m + C_3 R_4\right) + 2}$$

**10.6 INVALID-ORDER-6** $Z(s) = \left(R_1,\ \infty,\ \frac{1}{C_3 s},\ \frac{1}{C_4 s},\ \infty,\ \infty\right)$

$$H(s) = \frac{R_1 g_m}{s\left(C_3 R_1 g_m + C_3 + 2C_4 R_1 g_m + 2C_4\right)}$$

**10.7 INVALID-ORDER-7** $Z(s) = \left(R_1,\ \infty,\ \frac{1}{C_3 s},\ \frac{R_4}{C_4 R_4 s + 1},\ \infty,\ \infty\right)$

$$H(s) = \frac{R_1 R_4 g_m}{2R_1 g_m + s\left(C_3 R_1 R_4 g_m + C_3 R_4 + 2C_4 R_1 R_4 g_m + 2C_4 R_4\right) + 2}$$

**10.8 INVALID-ORDER-8** $Z(s) = \left(R_1,\ \infty,\ \frac{1}{C_3 s},\ R_4 + \frac{1}{C_4 s},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_4 R_1 R_4 g_m s + R_1 g_m}{s^2\left(C_3 C_4 R_1 R_4 g_m + C_3 C_4 R_4\right) + s\left(C_3 R_1 g_m + C_3 + 2C_4 R_1 g_m + 2C_4\right)}$$

**10.9 INVALID-ORDER-9** $Z(s) = \left(R_1,\ \infty,\ \frac{1}{C_3 s},\ L_4 s + \frac{1}{C_4 s},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_4 L_4 R_1 g_m s^2 + R_1 g_m}{s^3\left(C_3 C_4 L_4 R_1 g_m + C_3 C_4 L_4\right) + s\left(C_3 R_1 g_m + C_3 + 2C_4 R_1 g_m + 2C_4\right)}$$

**10.10 INVALID-ORDER-10** $Z(s) = \left(R_1,\ \infty,\ \frac{1}{C_3 s},\ \frac{L_4 s}{C_4 L_4 s^2 + 1},\ \infty,\ \infty\right)$

$$H(s) = \frac{L_4 R_1 g_m s}{2R_1 g_m + s^2\left(C_3 L_4 R_1 g_m + C_3 L_4 + 2C_4 L_4 R_1 g_m + 2C_4 L_4\right) + 2}$$

**10.11 INVALID-ORDER-11** $Z(s) = \left(R_1,\ \infty,\ \frac{1}{C_3 s},\ L_4 s + R_4 + \frac{1}{C_4 s},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_4 L_4 R_1 g_m s^2 + C_4 R_1 R_4 g_m s + R_1 g_m}{s^3\left(C_3 C_4 L_4 R_1 g_m + C_3 C_4 L_4\right) + s^2\left(C_3 C_4 R_1 R_4 g_m + C_3 C_4 R_4\right) + s\left(C_3 R_1 g_m + C_3 + 2C_4 R_1 g_m + 2C_4\right)}$$

**10.12 INVALID-ORDER-12** $Z(s) = \left(R_1,\ \infty,\ \frac{1}{C_3 s},\ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_4 L_4 R_1 R_4 g_m s^2 + L_4 R_1 g_m s + R_1 R_4 g_m}{2R_1 g_m + s^3\left(C_3 C_4 L_4 R_1 R_4 g_m + C_3 C_4 L_4 R_4\right) + s^2\left(C_3 L_4 R_1 g_m + C_3 L_4 + 2C_4 L_4 R_1 g_m + 2C_4 L_4\right) + s\left(C_3 R_1 R_4 g_m + C_3 R_4\right) + 2}$$

**10.13 INVALID-ORDER-13** $Z(s) = \left(R_1,\ \infty,\ \frac{1}{C_3 s},\ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_4 L_4 R_1 R_4 g_m s^2 + R_1 R_4 g_m}{2R_1 g_m + s^3\left(C_3 C_4 L_4 R_1 R_4 g_m + C_3 C_4 L_4 R_4\right) + s^2\left(2C_4 L_4 R_1 g_m + 2C_4 L_4\right) + s\left(C_3 R_1 R_4 g_m + C_3 R_4 + 2C_4 R_1 R_4 g_m + 2C_4 R_4\right) + 2}$$

**10.14  INVALID-ORDER-14** $Z(s) = \left(R_1,\ \infty,\ \frac{R_3}{C_3 R_3 s + 1},\ R_4,\ \infty,\ \infty\right)$

$$H(s) = \frac{R_1 R_3 R_4 g_m}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4 + s\left(C_3 R_1 R_3 R_4 g_m + C_3 R_3 R_4\right)}$$

**10.15  INVALID-ORDER-15** $Z(s) = \left(R_1,\ \infty,\ \frac{R_3}{C_3 R_3 s + 1},\ \frac{1}{C_4 s},\ \infty,\ \infty\right)$

$$H(s) = \frac{R_1 R_3 g_m}{R_1 g_m + s\left(C_3 R_1 R_3 g_m + C_3 R_3 + 2C_4 R_1 R_3 g_m + 2C_4 R_3\right) + 1}$$

**10.16  INVALID-ORDER-16** $Z(s) = \left(R_1,\ \infty,\ \frac{R_3}{C_3 R_3 s + 1},\ \frac{R_4}{C_4 R_4 s + 1},\ \infty,\ \infty\right)$

$$H(s) = \frac{R_1 R_3 R_4 g_m}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4 + s\left(C_3 R_1 R_3 R_4 g_m + C_3 R_3 R_4 + 2C_4 R_1 R_3 R_4 g_m + 2C_4 R_3 R_4\right)}$$

**10.17  INVALID-ORDER-17** $Z(s) = \left(R_1,\ \infty,\ \frac{R_3}{C_3 R_3 s + 1},\ L_4 s + \frac{1}{C_4 s},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_4 L_4 R_1 R_3 g_m s^2 + R_1 R_3 g_m}{R_1 g_m + s^3\left(C_3 C_4 L_4 R_1 R_3 g_m + C_3 C_4 L_4 R_3\right) + s^2\left(C_4 L_4 R_1 g_m + C_4 L_4\right) + s\left(C_3 R_1 R_3 g_m + C_3 R_3 + 2C_4 R_1 R_3 g_m + 2C_4 R_3\right) + 1}$$

**10.18  INVALID-ORDER-18** $Z(s) = \left(R_1,\ \infty,\ \frac{R_3}{C_3 R_3 s + 1},\ L_4 s + R_4 + \frac{1}{C_4 s},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_4 L_4 R_1 R_3 g_m s^2 + C_4 R_1 R_3 R_4 g_m s + R_1 R_3 g_m}{R_1 g_m + s^3\left(C_3 C_4 L_4 R_1 R_3 g_m + C_3 C_4 L_4 R_3\right) + s^2\left(C_3 C_4 R_1 R_3 R_4 g_m + C_3 C_4 R_3 R_4 + C_4 L_4 R_1 g_m + C_4 L_4\right) + s\left(C_3 R_1 R_3 g_m + C_3 R_3 + 2C_4 R_1 R_3 g_m + C_4 R_1 R_4 g_m + 2C_4 R_3 + C_4 R_4\right) + 1}$$

**10.19  INVALID-ORDER-19** $Z(s) = \left(R_1,\ \infty,\ \frac{R_3}{C_3 R_3 s + 1},\ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_4 L_4 R_1 R_3 R_4 g_m s^2 + L_4 R_1 R_3 g_m s + R_1 R_3 R_4 g_m}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4 + s^3\left(C_3 C_4 L_4 R_1 R_3 R_4 g_m + C_3 C_4 L_4 R_3 R_4\right) + s^2\left(C_3 L_4 R_1 R_3 g_m + C_3 L_4 R_3 + 2C_4 L_4 R_1 R_3 g_m + C_4 L_4 R_1 R_4 g_m + 2C_4 L_4 R_3 + C_4 L_4 R_4\right) + s\left(C_3 R_1 R_3 R_4 g_m + C_3 R_3 R_4 + L_4 R_1 g_m + L_4\right)}$$

**10.20  INVALID-ORDER-20** $Z(s) = \left(R_1,\ \infty,\ \frac{R_3}{C_3 R_3 s + 1},\ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_4 L_4 R_1 R_3 R_4 g_m s^2 + R_1 R_3 R_4 g_m}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4 + s^3\left(C_3 C_4 L_4 R_1 R_3 R_4 g_m + C_3 C_4 L_4 R_3 R_4\right) + s^2\left(2C_4 L_4 R_1 R_3 g_m + C_4 L_4 R_1 R_4 g_m + 2C_4 L_4 R_3 + C_4 L_4 R_4\right) + s\left(C_3 R_1 R_3 R_4 g_m + C_3 R_3 R_4 + 2C_4 R_1 R_3 R_4 g_m + 2C_4 R_3 R_4\right)}$$

**10.21  INVALID-ORDER-21** $Z(s) = \left(R_1,\ \infty,\ R_3 + \frac{1}{C_3 s},\ R_4,\ \infty,\ \infty\right)$

$$H(s) = \frac{C_3 R_1 R_3 R_4 g_m s + R_1 R_4 g_m}{2R_1 g_m + s\left(2C_3 R_1 R_3 g_m + C_3 R_1 R_4 g_m + 2C_3 R_3 + C_3 R_4\right) + 2}$$

**10.22  INVALID-ORDER-22** $Z(s) = \left(R_1,\ \infty,\ R_3 + \frac{1}{C_3 s},\ \frac{1}{C_4 s},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_3 R_1 R_3 g_m s + R_1 g_m}{s^2\left(2C_3 C_4 R_1 R_3 g_m + 2C_3 C_4 R_3\right) + s\left(C_3 R_1 g_m + C_3 + 2C_4 R_1 g_m + 2C_4\right)}$$

**10.23  INVALID-ORDER-23** $Z(s) = \left(R_1,\ \infty,\ R_3 + \frac{1}{C_3 s},\ R_4 + \frac{1}{C_4 s},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_3 C_4 R_1 R_3 R_4 g_m s^2 + R_1 g_m + s\left(C_3 R_1 R_3 g_m + C_4 R_1 R_4 g_m\right)}{s^2\left(2C_3 C_4 R_1 R_3 g_m + C_3 C_4 R_1 R_4 g_m + 2C_3 C_4 R_3 + C_3 C_4 R_4\right) + s\left(C_3 R_1 g_m + C_3 + 2C_4 R_1 g_m + 2C_4\right)}$$

**10.24  INVALID-ORDER-24** $Z(s) = \left(R_1, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_4 R_1 R_3 g_m s^3 + C_3 R_1 R_3 g_m s + C_4 L_4 R_1 g_m s^2 + R_1 g_m}{s^3 \left(C_3 C_4 L_4 R_1 g_m + C_3 C_4 L_4\right) + s^2 \left(2 C_3 C_4 R_1 R_3 g_m + 2 C_3 C_4 R_3\right) + s \left(C_3 R_1 g_m + C_3 + 2 C_4 R_1 g_m + 2 C_4\right)}$$

**10.25  INVALID-ORDER-25** $Z(s) = \left(R_1, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 L_4 R_1 R_3 g_m s^2 + L_4 R_1 g_m s}{2 R_1 g_m + s^3 \left(2 C_3 C_4 L_4 R_1 R_3 g_m + 2 C_3 C_4 L_4 R_3\right) + s^2 \left(C_3 L_4 R_1 g_m + C_3 L_4 + 2 C_4 L_4 R_1 g_m + 2 C_4 L_4\right) + s \left(2 C_3 R_1 R_3 g_m + 2 C_3 R_3\right) + 2}$$

**10.26  INVALID-ORDER-26** $Z(s) = \left(R_1, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_4 R_1 R_3 g_m s^3 + R_1 g_m + s^2 \left(C_3 C_4 R_1 R_3 R_4 g_m + C_4 L_4 R_1 g_m\right) + s \left(C_3 R_1 R_3 g_m + C_4 R_1 R_4 g_m\right)}{s^3 \left(C_3 C_4 L_4 R_1 g_m + C_3 C_4 L_4\right) + s^2 \left(2 C_3 C_4 R_1 R_3 g_m + C_3 C_4 R_1 R_4 g_m + 2 C_3 C_4 R_3 + C_3 C_4 R_4\right) + s \left(C_3 R_1 g_m + C_3 + 2 C_4 R_1 g_m + 2 C_4\right)}$$

**10.27  INVALID-ORDER-27** $Z(s) = \left(R_1, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 L_4 R_1 R_3 R_4 g_m s^2 + L_4 R_1 R_4 g_m s}{2 R_1 R_4 g_m + 2 R_4 + s^3 \left(2 C_3 C_4 L_4 R_1 R_3 R_4 g_m + 2 C_3 C_4 L_4 R_3 R_4\right) + s^2 \left(2 C_3 L_4 R_1 R_3 g_m + C_3 L_4 R_1 R_4 g_m + 2 C_3 L_4 R_3 + C_3 L_4 R_4 + 2 C_4 L_4 R_1 R_4 g_m + 2 C_4 L_4 R_4\right) + s \left(2 C_3 R_1 R_3 R_4 g_m + 2 C_3 R_3 R_4 + 2 L_4 R_1 g_m + 2 L_4\right)}$$

**10.28  INVALID-ORDER-28** $Z(s) = \left(R_1, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_4 R_1 R_3 R_4 g_m s^3 + R_1 R_4 g_m + s^2 \left(C_3 L_4 R_1 R_3 g_m + C_4 L_4 R_1 R_4 g_m\right) + s \left(C_3 R_1 R_3 R_4 g_m + L_4 R_1 g_m\right)}{2 R_1 g_m + s^3 \left(2 C_3 C_4 L_4 R_1 R_3 g_m + C_3 C_4 L_4 R_1 R_4 g_m + 2 C_3 C_4 L_4 R_3 + C_3 C_4 L_4 R_4\right) + s^2 \left(C_3 L_4 R_1 g_m + C_3 L_4 + 2 C_4 L_4 R_1 g_m + 2 C_4 L_4\right) + s \left(2 C_3 R_1 R_3 g_m + C_3 R_1 R_4 g_m + 2 C_3 R_3 + C_3 R_4\right) + 2}$$

**10.29  INVALID-ORDER-29** $Z(s) = \left(R_1, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{R_4 \left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_4 R_1 R_3 R_4 g_m s^3 + C_3 R_1 R_3 R_4 g_m s + C_4 L_4 R_1 R_4 g_m s^2 + R_1 R_4 g_m}{2 R_1 g_m + s^3 \left(2 C_3 C_4 L_4 R_1 R_3 g_m + C_3 C_4 L_4 R_1 R_4 g_m + 2 C_3 C_4 L_4 R_3 + C_3 C_4 L_4 R_4\right) + s^2 \left(2 C_3 C_4 R_1 R_3 R_4 g_m + 2 C_3 C_4 R_3 R_4 + 2 C_4 L_4 R_1 g_m + 2 C_4 L_4\right) + s \left(2 C_3 R_1 R_3 g_m + C_3 R_1 R_4 g_m + 2 C_3 R_3 + C_3 R_4 + 2 C_4 R_1 R_4 g_m + 2 C_4 R_4\right) + 2}$$

**10.30  INVALID-ORDER-30** $Z(s) = \left(R_1, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 L_3 R_1 g_m s^2 + R_1 g_m}{s^3 \left(2 C_3 C_4 L_3 R_1 g_m + 2 C_3 C_4 L_3\right) + s \left(C_3 R_1 g_m + C_3 + 2 C_4 R_1 g_m + 2 C_4\right)}$$

**10.31  INVALID-ORDER-31** $Z(s) = \left(R_1, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 L_3 R_1 R_4 g_m s^2 + R_1 R_4 g_m}{2 R_1 g_m + s^3 \left(2 C_3 C_4 L_3 R_1 R_4 g_m + 2 C_3 C_4 L_3 R_4\right) + s^2 \left(2 C_3 L_3 R_1 g_m + 2 C_3 L_3\right) + s \left(C_3 R_1 R_4 g_m + C_3 R_4 + 2 C_4 R_1 R_4 g_m + 2 C_4 R_4\right) + 2}$$

**10.32  INVALID-ORDER-32** $Z(s) = \left(R_1, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_3 R_1 R_4 g_m s^3 + C_3 L_3 R_1 g_m s^2 + C_4 R_1 R_4 g_m s + R_1 g_m}{s^3 \left(2 C_3 C_4 L_3 R_1 g_m + 2 C_3 C_4 L_3\right) + s^2 \left(C_3 C_4 R_1 R_4 g_m + C_3 C_4 R_4\right) + s \left(C_3 R_1 g_m + C_3 + 2 C_4 R_1 g_m + 2 C_4\right)}$$

**10.33 INVALID-ORDER-33** $Z(s) = \left(R_1,\ \infty,\ L_3 s + \frac{1}{C_3 s},\ L_4 s + \frac{1}{C_4 s},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_3 L_4 R_1 g_m s^4 + R_1 g_m + s^2 \left(C_3 L_3 R_1 g_m + C_4 L_4 R_1 g_m\right)}{s^3 \left(2C_3 C_4 L_3 R_1 g_m + 2C_3 C_4 L_3 + C_3 C_4 L_4 R_1 g_m + C_3 C_4 L_4\right) + s \left(C_3 R_1 g_m + C_3 + 2C_4 R_1 g_m + 2C_4\right)}$$

**10.34 INVALID-ORDER-34** $Z(s) = \left(R_1,\ \infty,\ L_3 s + \frac{1}{C_3 s},\ \frac{L_4 s}{C_4 L_4 s^2 + 1},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_3 L_3 L_4 R_1 g_m s^3 + L_4 R_1 g_m s}{2R_1 g_m + s^4 \left(2C_3 C_4 L_3 L_4 R_1 g_m + 2C_3 C_4 L_3 L_4\right) + s^2 \left(2C_3 L_3 R_1 g_m + 2C_3 L_3 + C_3 L_4 R_1 g_m + C_3 L_4 + 2C_4 L_4 R_1 g_m + 2C_4 L_4\right) + 2}$$

**10.35 INVALID-ORDER-35** $Z(s) = \left(R_1,\ \infty,\ L_3 s + \frac{1}{C_3 s},\ L_4 s + R_4 + \frac{1}{C_4 s},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_3 L_4 R_1 g_m s^4 + C_3 C_4 L_3 R_1 R_4 g_m s^3 + C_4 R_1 R_4 g_m s + R_1 g_m + s^2 \left(C_3 L_3 R_1 g_m + C_4 L_4 R_1 g_m\right)}{s^3 \left(2C_3 C_4 L_3 R_1 g_m + 2C_3 C_4 L_3 + C_3 C_4 L_4 R_1 g_m + C_3 C_4 L_4\right) + s^2 \left(C_3 C_4 R_1 R_4 g_m + C_3 C_4 R_4\right) + s \left(C_3 R_1 g_m + C_3 + 2C_4 R_1 g_m + 2C_4\right)}$$

**10.36 INVALID-ORDER-36** $Z(s) = \left(R_1,\ \infty,\ L_3 s + \frac{1}{C_3 s},\ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_3 L_3 L_4 R_1 R_4 g_m s^3 + L_4 R_1 R_4 g_m s}{2R_1 R_4 g_m + 2R_4 + s^4 \left(2C_3 C_4 L_3 L_4 R_1 R_4 g_m + 2C_3 C_4 L_3 L_4 R_4\right) + s^3 \left(2C_3 L_3 L_4 R_1 g_m + 2C_3 L_3 L_4\right) + s^2 \left(2C_3 L_3 R_1 R_4 g_m + 2C_3 L_3 R_4 + C_3 L_4 R_1 R_4 g_m + C_3 L_4 R_4 + 2C_4 L_4 R_1 R_4 g_m + 2C_4 L_4 R_4\right) + s \left(2L_4 R_1 g_m + 2L_4\right)}$$

**10.37 INVALID-ORDER-37** $Z(s) = \left(R_1,\ \infty,\ L_3 s + \frac{1}{C_3 s},\ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_3 L_4 R_1 R_4 g_m s^4 + C_3 L_3 L_4 R_1 g_m s^3 + L_4 R_1 g_m s + R_1 R_4 g_m + s^2 \left(C_3 L_3 R_1 R_4 g_m + C_4 L_4 R_1 R_4 g_m\right)}{2R_1 g_m + s^4 \left(2C_3 C_4 L_3 L_4 R_1 g_m + 2C_3 C_4 L_3 L_4\right) + s^3 \left(C_3 C_4 L_4 R_1 R_4 g_m + C_3 C_4 L_4 R_4\right) + s^2 \left(2C_3 L_3 R_1 g_m + 2C_3 L_3 + C_3 L_4 R_1 g_m + C_3 L_4 + 2C_4 L_4 R_1 g_m + 2C_4 L_4\right) + s \left(C_3 R_1 R_4 g_m + C_3 R_4\right) + 2}$$

**10.38 INVALID-ORDER-38** $Z(s) = \left(R_1,\ \infty,\ L_3 s + \frac{1}{C_3 s},\ \frac{R_4 \left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_3 L_4 R_1 R_4 g_m s^4 + R_1 R_4 g_m + s^2 \left(C_3 L_3 R_1 R_4 g_m + C_4 L_4 R_1 R_4 g_m\right)}{2R_1 g_m + s^4 \left(2C_3 C_4 L_3 L_4 R_1 g_m + 2C_3 C_4 L_3 L_4\right) + s^3 \left(2C_3 C_4 L_3 R_1 R_4 g_m + 2C_3 C_4 L_3 R_4 + C_3 C_4 L_4 R_1 R_4 g_m + C_3 C_4 L_4 R_4\right) + s^2 \left(2C_3 L_3 R_1 g_m + 2C_3 L_3 + 2C_4 L_4 R_1 g_m + 2C_4 L_4\right) + s \left(C_3 R_1 R_4 g_m + C_3 R_4 + 2C_4 R_1 R_4 g_m + 2C_4 R_4\right) + 2}$$

**10.39 INVALID-ORDER-39** $Z(s) = \left(R_1,\ \infty,\ \frac{L_3 s}{C_3 L_3 s^2 + 1},\ \frac{1}{C_4 s},\ \infty,\ \infty\right)$

$$H(s) = \frac{L_3 R_1 g_m s}{R_1 g_m + s^2 \left(C_3 L_3 R_1 g_m + C_3 L_3 + 2C_4 L_3 R_1 g_m + 2C_4 L_3\right) + 1}$$

**10.40 INVALID-ORDER-40** $Z(s) = \left(R_1,\ \infty,\ \frac{L_3 s}{C_3 L_3 s^2 + 1},\ R_4 + \frac{1}{C_4 s},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_4 L_3 R_1 R_4 g_m s^2 + L_3 R_1 g_m s}{R_1 g_m + s^3 \left(C_3 C_4 L_3 R_1 R_4 g_m + C_3 C_4 L_3 R_4\right) + s^2 \left(C_3 L_3 R_1 g_m + C_3 L_3 + 2C_4 L_3 R_1 g_m + 2C_4 L_3\right) + s \left(C_4 R_1 R_4 g_m + C_4 R_4\right) + 1}$$

**10.41 INVALID-ORDER-41** $Z(s) = \left(R_1,\ \infty,\ \frac{L_3 s}{C_3 L_3 s^2 + 1},\ L_4 s + \frac{1}{C_4 s},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_4 L_3 L_4 R_1 g_m s^3 + L_3 R_1 g_m s}{R_1 g_m + s^4 \left(C_3 C_4 L_3 L_4 R_1 g_m + C_3 C_4 L_3 L_4\right) + s^2 \left(C_3 L_3 R_1 g_m + C_3 L_3 + 2C_4 L_3 R_1 g_m + 2C_4 L_3 + C_4 L_4 R_1 g_m + C_4 L_4\right) + 1}$$

**10.42 INVALID-ORDER-42** $Z(s) = \left(R_1,\ \infty,\ \frac{L_3 s}{C_3 L_3 s^2 + 1},\ \frac{L_4 s}{C_4 L_4 s^2 + 1},\ \infty,\ \infty\right)$

$$H(s) = \frac{L_3 L_4 R_1 g_m s}{2L_3 R_1 g_m + 2L_3 + L_4 R_1 g_m + L_4 + s^2 \left(C_3 L_3 L_4 R_1 g_m + C_3 L_3 L_4 + 2C_4 L_3 L_4 R_1 g_m + 2C_4 L_3 L_4\right)}$$

**10.43  INVALID-ORDER-43** $Z(s) = \left(R_1,\ \infty,\ \frac{L_3 s}{C_3 L_3 s^2 + 1},\ L_4 s + R_4 + \frac{1}{C_4 s},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_4 L_3 L_4 R_1 g_m s^3 + C_4 L_3 R_1 R_4 g_m s^2 + L_3 R_1 g_m s}{R_1 g_m + s^4 \left(C_3 C_4 L_3 L_4 R_1 g_m + C_3 C_4 L_3 L_4\right) + s^3 \left(C_3 C_4 L_3 R_1 R_4 g_m + C_3 C_4 L_3 R_4\right) + s^2 \left(C_3 L_3 R_1 g_m + C_3 L_3 + 2 C_4 L_3 R_1 g_m + 2 C_4 L_3 + C_4 L_4 R_1 g_m + C_4 L_4\right) + s \left(C_4 R_1 R_4 g_m + C_4 R_4\right) + 1}$$

**10.44  INVALID-ORDER-44** $Z(s) = \left(R_1,\ \infty,\ \frac{L_3 s}{C_3 L_3 s^2 + 1},\ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_4 L_3 L_4 R_1 R_4 g_m s^3 + L_3 L_4 R_1 g_m s^2 + L_3 R_1 R_4 g_m s}{R_1 R_4 g_m + R_4 + s^4 \left(C_3 C_4 L_3 L_4 R_1 R_4 g_m + C_3 C_4 L_3 L_4 R_4\right) + s^3 \left(C_3 L_3 L_4 R_1 g_m + C_3 L_3 L_4 + 2 C_4 L_3 L_4 R_1 g_m + 2 C_4 L_3 L_4\right) + s^2 \left(C_3 L_3 R_1 R_4 g_m + C_3 L_3 R_4 + C_4 L_4 R_1 R_4 g_m + C_4 L_4 R_4\right) + s \left(2 L_3 R_1 g_m + 2 L_3 + L_4 R_1 g_m + L_4\right)}$$

**10.45  INVALID-ORDER-45** $Z(s) = \left(R_1,\ \infty,\ \frac{L_3 s}{C_3 L_3 s^2 + 1},\ \frac{R_4 \left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_4 L_3 L_4 R_1 R_4 g_m s^3 + L_3 R_1 R_4 g_m s}{R_1 R_4 g_m + R_4 + s^4 \left(C_3 C_4 L_3 L_4 R_1 R_4 g_m + C_3 C_4 L_3 L_4 R_4\right) + s^3 \left(2 C_4 L_3 L_4 R_1 g_m + 2 C_4 L_3 L_4\right) + s^2 \left(C_3 L_3 R_1 R_4 g_m + C_3 L_3 R_4 + 2 C_4 L_3 R_1 R_4 g_m + 2 C_4 L_3 R_4 + C_4 L_4 R_1 R_4 g_m + C_4 L_4 R_4\right) + s \left(2 L_3 R_1 g_m + 2 L_3\right)}$$

**10.46  INVALID-ORDER-46** $Z(s) = \left(R_1,\ \infty,\ L_3 s + R_3 + \frac{1}{C_3 s},\ \frac{1}{C_4 s},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_3 L_3 R_1 g_m s^2 + C_3 R_1 R_3 g_m s + R_1 g_m}{s^3 \left(2 C_3 C_4 L_3 R_1 g_m + 2 C_3 C_4 L_3\right) + s^2 \left(2 C_3 C_4 R_1 R_3 g_m + 2 C_3 C_4 R_3\right) + s \left(C_3 R_1 g_m + C_3 + 2 C_4 R_1 g_m + 2 C_4\right)}$$

**10.47  INVALID-ORDER-47** $Z(s) = \left(R_1,\ \infty,\ L_3 s + R_3 + \frac{1}{C_3 s},\ \frac{R_4}{C_4 R_4 s + 1},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_3 L_3 R_1 R_4 g_m s^2 + C_3 R_1 R_3 R_4 g_m s + R_1 R_4 g_m}{2 R_1 g_m + s^3 \left(2 C_3 C_4 L_3 R_1 R_4 g_m + 2 C_3 C_4 L_3 R_4\right) + s^2 \left(2 C_3 C_4 R_1 R_3 R_4 g_m + 2 C_3 C_4 R_3 R_4 + 2 C_3 L_3 R_1 g_m + 2 C_3 L_3\right) + s \left(2 C_3 R_1 R_3 g_m + C_3 R_1 R_4 g_m + 2 C_3 R_3 + C_3 R_4 + 2 C_4 R_1 R_4 g_m + 2 C_4 R_4\right) + 2}$$

**10.48  INVALID-ORDER-48** $Z(s) = \left(R_1,\ \infty,\ L_3 s + R_3 + \frac{1}{C_3 s},\ R_4 + \frac{1}{C_4 s},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_3 R_1 R_4 g_m s^3 + R_1 g_m + s^2 \left(C_3 C_4 R_1 R_3 R_4 g_m + C_3 L_3 R_1 g_m\right) + s \left(C_3 R_1 R_3 g_m + C_4 R_1 R_4 g_m\right)}{s^3 \left(2 C_3 C_4 L_3 R_1 g_m + 2 C_3 C_4 L_3\right) + s^2 \left(2 C_3 C_4 R_1 R_3 g_m + C_3 C_4 R_1 R_4 g_m + 2 C_3 C_4 R_3 + C_3 C_4 R_4\right) + s \left(C_3 R_1 g_m + C_3 + 2 C_4 R_1 g_m + 2 C_4\right)}$$

**10.49  INVALID-ORDER-49** $Z(s) = \left(R_1,\ \infty,\ L_3 s + R_3 + \frac{1}{C_3 s},\ L_4 s + \frac{1}{C_4 s},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_3 L_4 R_1 g_m s^4 + C_3 C_4 L_4 R_1 R_3 g_m s^3 + C_3 R_1 R_3 g_m s + R_1 g_m + s^2 \left(C_3 L_3 R_1 g_m + C_4 L_4 R_1 g_m\right)}{s^3 \left(2 C_3 C_4 L_3 R_1 g_m + 2 C_3 C_4 L_3 + C_3 C_4 L_4 R_1 g_m + C_3 C_4 L_4\right) + s^2 \left(2 C_3 C_4 R_1 R_3 g_m + 2 C_3 C_4 R_3\right) + s \left(C_3 R_1 g_m + C_3 + 2 C_4 R_1 g_m + 2 C_4\right)}$$

**10.50  INVALID-ORDER-50** $Z(s) = \left(R_1,\ \infty,\ L_3 s + R_3 + \frac{1}{C_3 s},\ \frac{L_4 s}{C_4 L_4 s^2 + 1},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_3 L_3 L_4 R_1 g_m s^3 + C_3 L_4 R_1 R_3 g_m s^2 + L_4 R_1 g_m s}{2 R_1 g_m + s^4 \left(2 C_3 C_4 L_3 L_4 R_1 g_m + 2 C_3 C_4 L_3 L_4\right) + s^3 \left(2 C_3 C_4 L_4 R_1 R_3 g_m + 2 C_3 C_4 L_4 R_3\right) + s^2 \left(2 C_3 L_3 R_1 g_m + 2 C_3 L_3 + C_3 L_4 R_1 g_m + C_3 L_4 + 2 C_4 L_4 R_1 g_m + 2 C_4 L_4\right) + s \left(2 C_3 R_1 R_3 g_m + 2 C_3 R_3\right) + 2}$$

**10.51  INVALID-ORDER-51** $Z(s) = \left(R_1,\ \infty,\ L_3 s + R_3 + \frac{1}{C_3 s},\ L_4 s + R_4 + \frac{1}{C_4 s},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_3 L_4 R_1 g_m s^4 + R_1 g_m + s^3 \left(C_3 C_4 L_3 R_1 R_4 g_m + C_3 C_4 L_4 R_1 R_3 g_m\right) + s^2 \left(C_3 C_4 R_1 R_3 R_4 g_m + C_3 L_3 R_1 g_m + C_4 L_4 R_1 g_m\right) + s \left(C_3 R_1 R_3 g_m + C_4 R_1 R_4 g_m\right)}{s^3 \left(2 C_3 C_4 L_3 R_1 g_m + 2 C_3 C_4 L_3 + C_3 C_4 L_4 R_1 g_m + C_3 C_4 L_4\right) + s^2 \left(2 C_3 C_4 R_1 R_3 g_m + C_3 C_4 R_1 R_4 g_m + 2 C_3 C_4 R_3 + C_3 C_4 R_4\right) + s \left(C_3 R_1 g_m + C_3 + 2 C_4 R_1 g_m + 2 C_4\right)}$$

**10.52 INVALID-ORDER-52** $Z(s) = \left(R_1, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 L_3 L_4 R_1 R_4 g_m s^3 + C_3 L_4 R_1 R_3 R_4 g_m s^2 + L_4 R_1 R_4 g_m s}{2R_1 R_4 g_m + 2R_4 + s^4\left(2C_3 C_4 L_3 L_4 R_1 R_4 g_m + 2C_3 C_4 L_3 L_4 R_4\right) + s^3\left(2C_3 C_4 L_4 R_1 R_3 R_4 g_m + 2C_3 C_4 L_4 R_3 R_4 + 2C_3 L_3 L_4 R_1 g_m + 2C_3 L_3 L_4\right) + s^2\left(2C_3 L_3 R_1 R_4 g_m + 2C_3 L_3 R_4 + 2C_3 L_4 R_1 R_3 g_m + C_3 L_4 R_1 R_4 g_m + 2C_3 L_4 R_3 + C_3 L_4 R_4 + 2C_4 L_4 R_1 R_4 g_m + 2C_4 L_4 R_4\right) + \cdots}$$

**10.53 INVALID-ORDER-53** $Z(s) = \left(R_1, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_3 L_4 R_1 R_4 g_m s^4 + R_1 R_4 g_m + s^3\left(C_3 C_4 L_4 R_1 R_3 R_4 g_m + C_3 L_3 L_4 R_1 g_m\right) + s^2\left(C_3 L_3 R_1 R_4 g_m + C_3 L_4 R_1 R_3 g_m + C_4 L_4 R_1 R_4 g_m\right) + s\left(C_3 R_1 R_3 R_4 g_m + L_4 R_1 g_m\right)}{2R_1 g_m + s^4\left(2C_3 C_4 L_3 L_4 R_1 g_m + 2C_3 C_4 L_3 L_4\right) + s^3\left(2C_3 C_4 L_4 R_1 R_3 g_m + C_3 C_4 L_4 R_1 R_4 g_m + 2C_3 C_4 L_4 R_3 + C_3 C_4 L_4 R_4\right) + s^2\left(2C_3 L_3 R_1 g_m + 2C_3 L_3 + C_3 L_4 R_1 g_m + C_3 L_4 + 2C_4 L_4 R_1 g_m + 2C_4 L_4\right) + s\left(2C_3 R_1 R_3 g_m + C_3 R_1 R_4 g_m + 2C_3 R_3 + C_3 R_4\right) + 2}$$

**10.54 INVALID-ORDER-54** $Z(s) = \left(R_1, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_3 L_4 R_1 R_4 g_m s^4 + C_3 C_4 L_4 R_1 R_3 R_4 g_m s^3 + C_3 R_1 R_3 R_4 g_m s + R_1 R_4 g_m + s^2\left(C_3 L_3 R_1 R_4 g_m + C_4 L_4 R_1 R_4 g_m\right)}{2R_1 g_m + s^4\left(2C_3 C_4 L_3 L_4 R_1 g_m + 2C_3 C_4 L_3 L_4\right) + s^3\left(2C_3 C_4 L_3 R_1 R_4 g_m + 2C_3 C_4 L_3 R_4 + 2C_3 C_4 L_4 R_1 R_3 g_m + C_3 C_4 L_4 R_1 R_4 g_m + 2C_3 C_4 L_4 R_3 + C_3 C_4 L_4 R_4\right) + s^2\left(2C_3 C_4 R_1 R_3 R_4 g_m + 2C_3 C_4 R_3 R_4 + 2C_3 L_3 R_1 g_m + 2C_3 L_3 + 2C_4 L_4 R_1 g_m + 2C_4 L_4\right) + s\left(2C_3 R_1 R_3 g_m + \cdots\right)}$$

**10.55 INVALID-ORDER-55** $Z(s) = \left(R_1, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_4 L_3 R_1 R_3 R_4 g_m s^2 + L_3 R_1 R_3 g_m s}{R_1 R_3 g_m + R_3 + s^3\left(C_3 C_4 L_3 R_1 R_3 R_4 g_m + C_3 C_4 L_3 R_3 R_4\right) + s^2\left(C_3 L_3 R_1 R_3 g_m + C_3 L_3 R_3 + 2C_4 L_3 R_1 R_3 g_m + C_4 L_3 R_1 R_4 g_m + 2C_4 L_3 R_3 + C_4 L_3 R_4\right) + s\left(C_4 R_1 R_3 R_4 g_m + C_4 R_3 R_4 + L_3 R_1 g_m + L_3\right)}$$

**10.56 INVALID-ORDER-56** $Z(s) = \left(R_1, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_4 L_3 L_4 R_1 R_3 g_m s^3 + L_3 R_1 R_3 g_m s}{R_1 R_3 g_m + R_3 + s^4\left(C_3 C_4 L_3 L_4 R_1 R_3 g_m + C_3 C_4 L_3 L_4 R_3\right) + s^3\left(C_4 L_3 L_4 R_1 g_m + C_4 L_3 L_4\right) + s^2\left(C_3 L_3 R_1 R_3 g_m + C_3 L_3 R_3 + 2C_4 L_3 R_1 R_3 g_m + 2C_4 L_3 R_3 + C_4 L_4 R_1 R_3 g_m + C_4 L_4 R_3\right) + s\left(L_3 R_1 g_m + L_3\right)}$$

**10.57 INVALID-ORDER-57** $Z(s) = \left(R_1, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_4 L_3 L_4 R_1 R_3 g_m s^3 + C_4 L_3 R_1 R_3 R_4 g_m s^2 + L_3 R_1 R_3 g_m s}{R_1 R_3 g_m + R_3 + s^4\left(C_3 C_4 L_3 L_4 R_1 R_3 g_m + C_3 C_4 L_3 L_4 R_3\right) + s^3\left(C_3 C_4 L_3 R_1 R_3 R_4 g_m + C_3 C_4 L_3 R_3 R_4 + C_4 L_3 L_4 R_1 g_m + C_4 L_3 L_4\right) + s^2\left(C_3 L_3 R_1 R_3 g_m + C_3 L_3 R_3 + 2C_4 L_3 R_1 R_3 g_m + C_4 L_3 R_1 R_4 g_m + 2C_4 L_3 R_3 + C_4 L_3 R_4 + C_4 L_4 R_1 R_3 g_m + C_4 L_4 R_3\right) + s\left(C_4 R_1 R_3 R_4 g_m + \cdots\right)}$$

**10.58 INVALID-ORDER-58** $Z(s) = \left(R_1, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_4 L_3 L_4 R_1 R_3 R_4 g_m s^3 + L_3 L_4 R_1 R_3 g_m s^2 + L_3 R_1 R_3 R_4 g_m s}{R_1 R_3 R_4 g_m + R_3 R_4 + s^4\left(C_3 C_4 L_3 L_4 R_1 R_3 R_4 g_m + C_3 C_4 L_3 L_4 R_3 R_4\right) + s^3\left(C_3 L_3 L_4 R_1 R_3 g_m + C_3 L_3 L_4 R_3 + 2C_4 L_3 L_4 R_1 R_3 g_m + C_4 L_3 L_4 R_1 R_4 g_m + 2C_4 L_3 L_4 R_3 + C_4 L_3 L_4 R_4\right) + s^2\left(C_3 L_3 R_1 R_3 R_4 g_m + C_3 L_3 R_3 R_4 + C_4 L_4 R_1 R_3 R_4 g_m + C_4 L_4 R_3 R_4 + L_3 L_4 R_1 g_m + \cdots\right)}$$

**10.59 INVALID-ORDER-59** $Z(s) = \left(R_1, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_4 L_3 L_4 R_1 R_3 R_4 g_m s^3 + L_3 R_1 R_3 R_4 g_m s}{R_1 R_3 R_4 g_m + R_3 R_4 + s^4\left(C_3 C_4 L_3 L_4 R_1 R_3 R_4 g_m + C_3 C_4 L_3 L_4 R_3 R_4\right) + s^3\left(2C_4 L_3 L_4 R_1 R_3 g_m + C_4 L_3 L_4 R_1 R_4 g_m + 2C_4 L_3 L_4 R_3 + C_4 L_3 L_4 R_4\right) + s^2\left(C_3 L_3 R_1 R_3 R_4 g_m + C_3 L_3 R_3 R_4 + 2C_4 L_3 R_1 R_3 R_4 g_m + 2C_4 L_3 R_3 R_4 + C_4 L_4 R_1 R_3 R_4 g_m + C_4 L_4 R_3 R_4\right) + s\left(2L_3 R_1 R_3 \cdots\right)}$$

**10.60 INVALID-ORDER-60** $Z(s) = \left(R_1, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 L_3 R_1 R_3 g_m s^2 + L_3 R_1 g_m s + R_1 R_3 g_m}{R_1 g_m + s^3\left(2C_3 C_4 L_3 R_1 R_3 g_m + 2C_3 C_4 L_3 R_3\right) + s^2\left(C_3 L_3 R_1 g_m + C_3 L_3 + 2C_4 L_3 R_1 g_m + 2C_4 L_3\right) + s\left(2C_4 R_1 R_3 g_m + 2C_4 R_3\right) + 1}$$

**10.61** **INVALID-ORDER-61** $Z(s) = \left(R_1,\ \infty,\ \frac{C_3L_3R_3s^2+L_3s+R_3}{C_3L_3s^2+1},\ \frac{R_4}{C_4R_4s+1},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_3L_3R_1R_3R_4g_ms^2 + L_3R_1R_4g_ms + R_1R_3R_4g_m}{2R_1R_3g_m + R_1R_4g_m + 2R_3 + R_4 + s^3\left(2C_3C_4L_3R_1R_3R_4g_m + 2C_3C_4L_3R_3R_4\right) + s^2\left(2C_3L_3R_1R_3g_m + C_3L_3R_1R_4g_m + 2C_3L_3R_3 + C_3L_3R_4 + 2C_4L_3R_1R_4g_m + 2C_4L_3R_4\right) + s\left(2C_4R_1R_3R_4g_m + 2C_4R_3R_4 + 2L_3R_1g_m + 2L_3\right)}$$

**10.62** **INVALID-ORDER-62** $Z(s) = \left(R_1,\ \infty,\ \frac{C_3L_3R_3s^2+L_3s+R_3}{C_3L_3s^2+1},\ R_4 + \frac{1}{C_4s},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_3C_4L_3R_1R_3R_4g_ms^3 + R_1R_3g_m + s^2\left(C_3L_3R_1R_3g_m + C_4L_3R_1R_4g_m\right) + s\left(C_4R_1R_3R_4g_m + L_3R_1g_m\right)}{R_1g_m + s^3\left(2C_3C_4L_3R_1R_3g_m + C_3C_4L_3R_1R_4g_m + 2C_3C_4L_3R_3 + C_3C_4L_3R_4\right) + s^2\left(C_3L_3R_1g_m + C_3L_3 + 2C_4L_3R_1g_m + 2C_4L_3\right) + s\left(2C_4R_1R_3g_m + C_4R_1R_4g_m + 2C_4R_3 + C_4R_4\right) + 1}$$

**10.63** **INVALID-ORDER-63** $Z(s) = \left(R_1,\ \infty,\ \frac{C_3L_3R_3s^2+L_3s+R_3}{C_3L_3s^2+1},\ L_4s + \frac{1}{C_4s},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_3C_4L_3L_4R_1R_3g_ms^4 + C_4L_3L_4R_1g_ms^3 + L_3R_1g_ms + R_1R_3g_m + s^2\left(C_3L_3R_1R_3g_m + C_4L_4R_1R_3g_m\right)}{R_1g_m + s^4\left(C_3C_4L_3L_4R_1g_m + C_3C_4L_3L_4\right) + s^3\left(2C_3C_4L_3R_1R_3g_m + 2C_3C_4L_3R_3\right) + s^2\left(C_3L_3R_1g_m + C_3L_3 + 2C_4L_3R_1g_m + 2C_4L_3 + C_4L_4R_1g_m + C_4L_4\right) + s\left(2C_4R_1R_3g_m + 2C_4R_3\right) + 1}$$

**10.64** **INVALID-ORDER-64** $Z(s) = \left(R_1,\ \infty,\ \frac{C_3L_3R_3s^2+L_3s+R_3}{C_3L_3s^2+1},\ \frac{L_4s}{C_4L_4s^2+1},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_3L_3L_4R_1R_3g_ms^3 + L_3L_4R_1g_ms^2 + L_4R_1R_3g_ms}{2R_1R_3g_m + 2R_3 + s^4\left(2C_3C_4L_3L_4R_1R_3g_m + 2C_3C_4L_3L_4R_3\right) + s^3\left(C_3L_3L_4R_1g_m + C_3L_3L_4 + 2C_4L_3L_4R_1g_m + 2C_4L_3L_4\right) + s^2\left(2C_3L_3R_1R_3g_m + 2C_3L_3R_3 + 2C_4L_4R_1R_3g_m + 2C_4L_4R_3\right) + s\left(2L_3R_1g_m + 2L_3 + L_4R_1g_m + L_4\right)}$$

**10.65** **INVALID-ORDER-65** $Z(s) = \left(R_1,\ \infty,\ \frac{C_3L_3R_3s^2+L_3s+R_3}{C_3L_3s^2+1},\ L_4s + R_4 + \frac{1}{C_4s},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_3C_4L_3L_4R_1R_3g_ms^4 + R_1R_3g_m + s^3\left(C_3C_4L_3R_1R_3R_4g_m + C_4L_3L_4R_1g_m\right) + s^2\left(C_3L_3R_1R_3g_m + C_4L_3R_1R_4g_m + C_4L_4R_1R_3g_m\right) + s\left(C_4R_1R_3R_4g_m + L_3R_1g_m\right)}{R_1g_m + s^4\left(C_3C_4L_3L_4R_1g_m + C_3C_4L_3L_4\right) + s^3\left(2C_3C_4L_3R_1R_3g_m + C_3C_4L_3R_1R_4g_m + 2C_3C_4L_3R_3 + C_3C_4L_3R_4\right) + s^2\left(C_3L_3R_1g_m + C_3L_3 + 2C_4L_3R_1g_m + 2C_4L_3 + C_4L_4R_1g_m + C_4L_4\right) + s\left(2C_4R_1R_3g_m + C_4R_1R_4g_m + 2C_4R_3 + C_4R_4\right) + 1}$$

**10.66** **INVALID-ORDER-66** $Z(s) = \left(R_1,\ \infty,\ \frac{C_3L_3R_3s^2+L_3s+R_3}{C_3L_3s^2+1},\ \frac{L_4R_4s}{C_4L_4R_4s^2+L_4s+R_4},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_3L_3L_4R_1R_3R_4g_ms^3 + L_3L_4R_1R_4g_ms^2 + L_4R_1R_3R_4g_ms}{2R_1R_3R_4g_m + 2R_3R_4 + s^4\left(2C_3C_4L_3L_4R_1R_3R_4g_m + 2C_3C_4L_3L_4R_3R_4\right) + s^3\left(2C_3L_3L_4R_1R_3g_m + C_3L_3L_4R_1R_4g_m + 2C_3L_3L_4R_3 + C_3L_3L_4R_4 + 2C_4L_3L_4R_1R_4g_m + 2C_4L_3L_4R_4\right) + s^2\left(2C_3L_3R_1R_3R_4g_m + 2C_3L_3R_3R_4 + 2C_4L_4R_1R_3R_4g_m + 2C_4L_4R_3R_4 + 2L_3\ldots}$$

**10.67** **INVALID-ORDER-67** $Z(s) = \left(R_1,\ \infty,\ \frac{C_3L_3R_3s^2+L_3s+R_3}{C_3L_3s^2+1},\ \frac{C_4L_4R_4s^2+L_4s+R_4}{C_4L_4s^2+1},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_3C_4L_3L_4R_1R_3R_4g_ms^4 + R_1R_3R_4g_m + s^3\left(C_3L_3L_4R_1R_3g_m + C_4L_3L_4R_1R_4g_m\right) + s^2\left(C_3L_3R_1R_3R_4g_m + C_4L_4R_1R_3R_4g_m + L_3L_4R_1g_m\right) + s\left(L_3R_1R_4g_m + L_4R_1R_3g_m\right)}{2R_1R_3g_m + R_1R_4g_m + 2R_3 + R_4 + s^4\left(2C_3C_4L_3L_4R_1R_3g_m + C_3C_4L_3L_4R_1R_4g_m + 2C_3C_4L_3L_4R_3 + C_3C_4L_3L_4R_4\right) + s^3\left(C_3L_3L_4R_1g_m + C_3L_3L_4 + 2C_4L_3L_4R_1g_m + 2C_4L_3L_4\right) + s^2\left(2C_3L_3R_1R_3g_m + C_3L_3R_1R_4g_m + 2C_3L_3R_3 + C_3L_3R_4 + 2C_4L_4R_1R_3g_m + C\ldots}$$

**10.68** **INVALID-ORDER-68** $Z(s) = \left(R_1,\ \infty,\ \frac{C_3L_3R_3s^2+L_3s+R_3}{C_3L_3s^2+1},\ \frac{R_4\left(C_4L_4s^2+1\right)}{C_4L_4s^2+C_4R_4s+1},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_3C_4L_3L_4R_1R_3R_4g_ms^4 + C_4L_3L_4R_1R_4g_ms^3 + L_3R_1R_4g_ms + R_1R_3R_4g_m + s^2\left(C_3L_3R_1R_3R_4g_m + C_4L_4R_1R_3R_4g_m\right)}{2R_1R_3g_m + R_1R_4g_m + 2R_3 + R_4 + s^4\left(2C_3C_4L_3L_4R_1R_3g_m + C_3C_4L_3L_4R_1R_4g_m + 2C_3C_4L_3L_4R_3 + C_3C_4L_3L_4R_4\right) + s^3\left(2C_3C_4L_3R_1R_3R_4g_m + 2C_3C_4L_3R_3R_4 + 2C_4L_3L_4R_1g_m + 2C_4L_3L_4\right) + s^2\left(2C_3L_3R_1R_3g_m + C_3L_3R_1R_4g_m + 2C_3L_3R_3 + C_3L_3R_4 + 2C_4L\ldots}$$

**10.69** **INVALID-ORDER-69** $Z(s) = \left(R_1,\ \infty,\ \frac{R_3\left(C_3L_3s^2+1\right)}{C_3L_3s^2+C_3R_3s+1},\ \frac{1}{C_4s},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_3L_3R_1R_3g_ms^2 + R_1R_3g_m}{R_1g_m + s^3\left(2C_3C_4L_3R_1R_3g_m + 2C_3C_4L_3R_3\right) + s^2\left(C_3L_3R_1g_m + C_3L_3\right) + s\left(C_3R_1R_3g_m + C_3R_3 + 2C_4R_1R_3g_m + 2C_4R_3\right) + 1}$$

**10.70 INVALID-ORDER-70** $Z(s) = \left( R_1, \ \infty, \ \frac{R_3\left(C_3L_3s^2+1\right)}{C_3L_3s^2+C_3R_3s+1}, \ \frac{R_4}{C_4R_4s+1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3L_3R_1R_3R_4g_ms^2 + R_1R_3R_4g_m}{2R_1R_3g_m + R_1R_4g_m + 2R_3 + R_4 + s^3\left(2C_3C_4L_3R_1R_3R_4g_m + 2C_3C_4L_3R_3R_4\right) + s^2\left(2C_3L_3R_1R_3g_m + C_3L_3R_1R_4g_m + 2C_3L_3R_3 + C_3L_3R_4\right) + s\left(C_3R_1R_3R_4g_m + C_3R_3R_4 + 2C_4R_1R_3R_4g_m + 2C_4R_3R_4\right)}$$

**10.71 INVALID-ORDER-71** $Z(s) = \left( R_1, \ \infty, \ \frac{R_3\left(C_3L_3s^2+1\right)}{C_3L_3s^2+C_3R_3s+1}, \ R_4 + \frac{1}{C_4s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3C_4L_3R_1R_3R_4g_ms^3 + C_3L_3R_1R_3g_ms^2 + C_4R_1R_3R_4g_ms + R_1R_3g_m}{R_1g_m + s^3\left(2C_3C_4L_3R_1R_3g_m + C_3C_4L_3R_1R_4g_m + 2C_3C_4L_3R_3 + C_3C_4L_3R_4\right) + s^2\left(C_3C_4R_1R_3R_4g_m + C_3C_4R_3R_4 + C_3L_3R_1g_m + C_3L_3\right) + s\left(C_3R_1R_3g_m + C_3R_3 + 2C_4R_1R_3g_m + C_4R_1R_4g_m + 2C_4R_3 + C_4R_4\right) + 1}$$

**10.72 INVALID-ORDER-72** $Z(s) = \left( R_1, \ \infty, \ \frac{R_3\left(C_3L_3s^2+1\right)}{C_3L_3s^2+C_3R_3s+1}, \ L_4s + \frac{1}{C_4s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3C_4L_3L_4R_1R_3g_ms^4 + R_1R_3g_m + s^2\left(C_3L_3R_1R_3g_m + C_4L_4R_1R_3g_m\right)}{R_1g_m + s^4\left(C_3C_4L_3L_4R_1g_m + C_3C_4L_3L_4\right) + s^3\left(2C_3C_4L_3R_1R_3g_m + 2C_3C_4L_3R_3 + C_3C_4L_4R_1R_3g_m + C_3C_4L_4R_3\right) + s^2\left(C_3L_3R_1g_m + C_3L_3 + C_4L_4R_1g_m + C_4L_4\right) + s\left(C_3R_1R_3g_m + C_3R_3 + 2C_4R_1R_3g_m + 2C_4R_3\right) + 1}$$

**10.73 INVALID-ORDER-73** $Z(s) = \left( R_1, \ \infty, \ \frac{R_3\left(C_3L_3s^2+1\right)}{C_3L_3s^2+C_3R_3s+1}, \ \frac{L_4s}{C_4L_4s^2+1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3L_3L_4R_1R_3g_ms^3 + L_4R_1R_3g_ms}{2R_1R_3g_m + 2R_3 + s^4\left(2C_3C_4L_3L_4R_1R_3g_m + 2C_3C_4L_3L_4R_3\right) + s^3\left(C_3L_3L_4R_1g_m + C_3L_3L_4\right) + s^2\left(2C_3L_3R_1R_3g_m + 2C_3L_3R_3 + C_3L_4R_1R_3g_m + C_3L_4R_3 + 2C_4L_4R_1R_3g_m + 2C_4L_4R_3\right) + s\left(L_4R_1g_m + L_4\right)}$$

**10.74 INVALID-ORDER-74** $Z(s) = \left( R_1, \ \infty, \ \frac{R_3\left(C_3L_3s^2+1\right)}{C_3L_3s^2+C_3R_3s+1}, \ L_4s + R_4 + \frac{1}{C_4s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3C_4L_3L_4R_1R_3g_ms^4 + C_3C_4L_3R_1R_3R_4g_ms^3 + C_4R_1R_3R_4g_ms + R_1R_3g_m + s^2\left(C_3L_3R_1R_3g_m + C_4L_4R_1R_3g_m\right)}{R_1g_m + s^4\left(C_3C_4L_3L_4R_1g_m + C_3C_4L_3L_4\right) + s^3\left(2C_3C_4L_3R_1R_3g_m + C_3C_4L_3R_1R_4g_m + 2C_3C_4L_3R_3 + C_3C_4L_3R_4 + C_3C_4L_4R_1R_3g_m + C_3C_4L_4R_3\right) + s^2\left(C_3C_4R_1R_3R_4g_m + C_3C_4R_3R_4 + C_3L_3R_1g_m + C_3L_3 + C_4L_4R_1g_m + C_4L_4\right) + s\left(C_3R_1R_3g_m + C_3R_3 + 2C_4\ldots\right)}$$

**10.75 INVALID-ORDER-75** $Z(s) = \left( R_1, \ \infty, \ \frac{R_3\left(C_3L_3s^2+1\right)}{C_3L_3s^2+C_3R_3s+1}, \ \frac{L_4R_4s}{C_4L_4R_4s^2+L_4s+R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3L_3L_4R_1R_3R_4g_ms^3 + L_4R_1R_3R_4g_ms}{2R_1R_3R_4g_m + 2R_3R_4 + s^4\left(2C_3C_4L_3L_4R_1R_3R_4g_m + 2C_3C_4L_3L_4R_3R_4\right) + s^3\left(2C_3L_3L_4R_1R_3g_m + C_3L_3L_4R_1R_4g_m + 2C_3L_3L_4R_3 + C_3L_3L_4R_4\right) + s^2\left(2C_3L_3R_1R_3R_4g_m + 2C_3L_3R_3R_4 + C_3L_4R_1R_3R_4g_m + C_3L_4R_3R_4 + 2C_4L_4R_1R_3R_4g_m + 2C_4L_4R_3R_4\right) + s\left(2L\ldots\right)}$$

**10.76 INVALID-ORDER-76** $Z(s) = \left( R_1, \ \infty, \ \frac{R_3\left(C_3L_3s^2+1\right)}{C_3L_3s^2+C_3R_3s+1}, \ \frac{C_4L_4R_4s^2+L_4s+R_4}{C_4L_4s^2+1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3C_4L_3L_4R_1R_3R_4g_ms^4 + C_3L_3L_4R_1R_3g_ms^3 + L_4R_1R_3g_ms + R_1R_3R_4g_m + s^2\left(C_3L_3R_1R_3R_4g_m + C_4L_4R_1R_3R_4g_m\right)}{2R_1R_3g_m + R_1R_4g_m + 2R_3 + R_4 + s^4\left(2C_3C_4L_3L_4R_1R_3g_m + C_3C_4L_3L_4R_1R_4g_m + 2C_3C_4L_3L_4R_3 + C_3C_4L_3L_4R_4\right) + s^3\left(C_3C_4L_4R_1R_3R_4g_m + C_3C_4L_4R_3R_4 + C_3L_3L_4R_1g_m + C_3L_3L_4\right) + s^2\left(2C_3L_3R_1R_3g_m + C_3L_3R_1R_4g_m + 2C_3L_3R_3 + C_3L_3R_4 + C_3L_4R\ldots\right)}$$

**10.77 INVALID-ORDER-77** $Z(s) = \left( R_1, \ \infty, \ \frac{R_3\left(C_3L_3s^2+1\right)}{C_3L_3s^2+C_3R_3s+1}, \ \frac{R_4\left(C_4L_4s^2+1\right)}{C_4L_4s^2+C_4R_4s+1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3C_4L_3L_4R_1R_3R_4g_ms^4 + R_1R_3R_4g_m + s^2\left(C_3L_3R_1R_3R_4g_m + C_4L_4R_1R_3R_4g_m\right)}{2R_1R_3g_m + R_1R_4g_m + 2R_3 + R_4 + s^4\left(2C_3C_4L_3L_4R_1R_3g_m + C_3C_4L_3L_4R_1R_4g_m + 2C_3C_4L_3L_4R_3 + C_3C_4L_3L_4R_4\right) + s^3\left(2C_3C_4L_3R_1R_3R_4g_m + 2C_3C_4L_3R_3R_4 + C_3C_4L_4R_1R_3R_4g_m + C_3C_4L_4R_3R_4\right) + s^2\left(2C_3L_3R_1R_3g_m + C_3L_3R_1R_4g_m + 2C_3L_3R_3 + C_3L_3R\ldots\right)}$$

**10.78 INVALID-ORDER-78** $Z(s) = \left( L_1s, \ \infty, \ R_3, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1R_3R_4g_ms}{2R_3 + R_4 + s\left(2L_1R_3g_m + L_1R_4g_m\right)}$$

**10.79** **INVALID-ORDER-79** $Z(s) = \left( L_1 s, \ \infty, \ R_3, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_4 R_3 g_m s^3 + L_1 R_3 g_m s}{C_4 L_1 L_4 g_m s^3 + s^2 \left( 2 C_4 L_1 R_3 g_m + C_4 L_4 \right) + s \left( 2 C_4 R_3 + L_1 g_m \right) + 1}$$

**10.80** **INVALID-ORDER-80** $Z(s) = \left( L_1 s, \ \infty, \ R_3, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1 L_4 R_3 g_m s^2}{2 C_4 L_1 L_4 R_3 g_m s^3 + 2 R_3 + s^2 \left( 2 C_4 L_4 R_3 + L_1 L_4 g_m \right) + s \left( 2 L_1 R_3 g_m + L_4 \right)}$$

**10.81** **INVALID-ORDER-81** $Z(s) = \left( L_1 s, \ \infty, \ R_3, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_4 R_3 g_m s^3 + C_4 L_1 R_3 R_4 g_m s^2 + L_1 R_3 g_m s}{C_4 L_1 L_4 g_m s^3 + s^2 \left( 2 C_4 L_1 R_3 g_m + C_4 L_1 R_4 g_m + C_4 L_4 \right) + s \left( 2 C_4 R_3 + C_4 R_4 + L_1 g_m \right) + 1}$$

**10.82** **INVALID-ORDER-82** $Z(s) = \left( L_1 s, \ \infty, \ R_3, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1 L_4 R_3 R_4 g_m s^2}{2 C_4 L_1 L_4 R_3 R_4 g_m s^3 + 2 R_3 R_4 + s^2 \left( 2 C_4 L_4 R_3 R_4 + 2 L_1 L_4 R_3 g_m + L_1 L_4 R_4 g_m \right) + s \left( 2 L_1 R_3 R_4 g_m + 2 L_4 R_3 + L_4 R_4 \right)}$$

**10.83** **INVALID-ORDER-83** $Z(s) = \left( L_1 s, \ \infty, \ R_3, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_4 R_3 R_4 g_m s^3 + L_1 L_4 R_3 g_m s^2 + L_1 R_3 R_4 g_m s}{2 R_3 + R_4 + s^3 \left( 2 C_4 L_1 L_4 R_3 g_m + C_4 L_1 L_4 R_4 g_m \right) + s^2 \left( 2 C_4 L_4 R_3 + C_4 L_4 R_4 + L_1 L_4 g_m \right) + s \left( 2 L_1 R_3 g_m + L_1 R_4 g_m + L_4 \right)}$$

**10.84** **INVALID-ORDER-84** $Z(s) = \left( L_1 s, \ \infty, \ R_3, \ \frac{R_4 \left( C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_4 R_3 R_4 g_m s^3 + L_1 R_3 R_4 g_m s}{2 R_3 + R_4 + s^3 \left( 2 C_4 L_1 L_4 R_3 g_m + C_4 L_1 L_4 R_4 g_m \right) + s^2 \left( 2 C_4 L_1 R_3 R_4 g_m + 2 C_4 L_4 R_3 + C_4 L_4 R_4 \right) + s \left( 2 C_4 R_3 R_4 + 2 L_1 R_3 g_m + L_1 R_4 g_m \right)}$$

**10.85** **INVALID-ORDER-85** $Z(s) = \left( L_1 s, \ \infty, \ \frac{1}{C_3 s}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1 g_m}{C_3 + 2 C_4 + s \left( C_3 L_1 g_m + 2 C_4 L_1 g_m \right)}$$

**10.86** **INVALID-ORDER-86** $Z(s) = \left( L_1 s, \ \infty, \ \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_4 g_m s^2 + L_1 g_m}{C_3 C_4 L_1 L_4 g_m s^3 + C_3 C_4 L_4 s^2 + C_3 + 2 C_4 + s \left( C_3 L_1 g_m + 2 C_4 L_1 g_m \right)}$$

**10.87** **INVALID-ORDER-87** $Z(s) = \left( L_1 s, \ \infty, \ \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1 L_4 g_m s^2}{2 L_1 g_m s + s^3 \left( C_3 L_1 L_4 g_m + 2 C_4 L_1 L_4 g_m \right) + s^2 \left( C_3 L_4 + 2 C_4 L_4 \right) + 2}$$

**10.88** **INVALID-ORDER-88** $Z(s) = \left( L_1 s, \ \infty, \ \frac{1}{C_3 s}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_4 g_m s^2 + C_4 L_1 R_4 g_m s + L_1 g_m}{C_3 C_4 L_1 L_4 g_m s^3 + C_3 + 2 C_4 + s^2 \left( C_3 C_4 L_1 R_4 g_m + C_3 C_4 L_4 \right) + s \left( C_3 C_4 R_4 + C_3 L_1 g_m + 2 C_4 L_1 g_m \right)}$$

**10.89** **INVALID-ORDER-89** $Z(s) = \left(L_1 s,\ \infty,\ \frac{1}{C_3 s},\ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4},\ \infty,\ \infty\right)$

$$H(s) = \frac{L_1 L_4 R_4 g_m s^2}{2R_4 + s^3\left(C_3 L_1 L_4 R_4 g_m + 2C_4 L_1 L_4 R_4 g_m\right) + s^2\left(C_3 L_4 R_4 + 2C_4 L_4 R_4 + 2L_1 L_4 g_m\right) + s\left(2L_1 R_4 g_m + 2L_4\right)}$$

**10.90** **INVALID-ORDER-90** $Z(s) = \left(L_1 s,\ \infty,\ \frac{1}{C_3 s},\ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_4 L_1 L_4 R_4 g_m s^3 + L_1 L_4 g_m s^2 + L_1 R_4 g_m s}{C_3 C_4 L_1 L_4 R_4 g_m s^4 + s^3\left(C_3 C_4 L_4 R_4 + C_3 L_1 L_4 g_m + 2C_4 L_1 L_4 g_m\right) + s^2\left(C_3 L_1 R_4 g_m + C_3 L_4 + 2C_4 L_4\right) + s\left(C_3 R_4 + 2L_1 g_m\right) + 2}$$

**10.91** **INVALID-ORDER-91** $Z(s) = \left(L_1 s,\ \infty,\ \frac{1}{C_3 s},\ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_4 L_1 L_4 R_4 g_m s^3 + L_1 R_4 g_m s}{C_3 C_4 L_1 L_4 R_4 g_m s^4 + s^3\left(C_3 C_4 L_4 R_4 + 2C_4 L_1 L_4 g_m\right) + s^2\left(C_3 L_1 R_4 g_m + 2C_4 L_1 R_4 g_m + 2C_4 L_4\right) + s\left(C_3 R_4 + 2C_4 R_4 + 2L_1 g_m\right) + 2}$$

**10.92** **INVALID-ORDER-92** $Z(s) = \left(L_1 s,\ \infty,\ \frac{R_3}{C_3 R_3 s + 1},\ R_4 + \frac{1}{C_4 s},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_4 L_1 R_3 R_4 g_m s^2 + L_1 R_3 g_m s}{C_3 C_4 L_1 R_3 R_4 g_m s^3 + s^2\left(C_3 C_4 R_3 R_4 + C_3 L_1 R_3 g_m + 2C_4 L_1 R_3 g_m + C_4 L_1 R_4 g_m\right) + s\left(C_3 R_3 + 2C_4 R_3 + C_4 R_4 + L_1 g_m\right) + 1}$$

**10.93** **INVALID-ORDER-93** $Z(s) = \left(L_1 s,\ \infty,\ \frac{R_3}{C_3 R_3 s + 1},\ L_4 s + \frac{1}{C_4 s},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_4 L_1 L_4 R_3 g_m s^3 + L_1 R_3 g_m s}{C_3 C_4 L_1 L_4 R_3 g_m s^4 + s^3\left(C_3 C_4 L_4 R_3 + C_4 L_1 L_4 g_m\right) + s^2\left(C_3 L_1 R_3 g_m + 2C_4 L_1 R_3 g_m + C_4 L_4\right) + s\left(C_3 R_3 + 2C_4 R_3 + L_1 g_m\right) + 1}$$

**10.94** **INVALID-ORDER-94** $Z(s) = \left(L_1 s,\ \infty,\ \frac{R_3}{C_3 R_3 s + 1},\ \frac{L_4 s}{C_4 L_4 s^2 + 1},\ \infty,\ \infty\right)$

$$H(s) = \frac{L_1 L_4 R_3 g_m s^2}{2R_3 + s^3\left(C_3 L_1 L_4 R_3 g_m + 2C_4 L_1 L_4 R_3 g_m\right) + s^2\left(C_3 L_4 R_3 + 2C_4 L_4 R_3 + L_1 L_4 g_m\right) + s\left(2L_1 R_3 g_m + L_4\right)}$$

**10.95** **INVALID-ORDER-95** $Z(s) = \left(L_1 s,\ \infty,\ \frac{R_3}{C_3 R_3 s + 1},\ L_4 s + R_4 + \frac{1}{C_4 s},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_4 L_1 L_4 R_3 g_m s^3 + C_4 L_1 R_3 R_4 g_m s^2 + L_1 R_3 g_m s}{C_3 C_4 L_1 L_4 R_3 g_m s^4 + s^3\left(C_3 C_4 L_1 R_3 R_4 g_m + C_3 C_4 L_4 R_3 + C_4 L_1 L_4 g_m\right) + s^2\left(C_3 C_4 R_3 R_4 + C_3 L_1 R_3 g_m + 2C_4 L_1 R_3 g_m + C_4 L_1 R_4 g_m + C_4 L_4\right) + s\left(C_3 R_3 + 2C_4 R_3 + C_4 R_4 + L_1 g_m\right) + 1}$$

**10.96** **INVALID-ORDER-96** $Z(s) = \left(L_1 s,\ \infty,\ \frac{R_3}{C_3 R_3 s + 1},\ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4},\ \infty,\ \infty\right)$

$$H(s) = \frac{L_1 L_4 R_3 R_4 g_m s^2}{2R_3 R_4 + s^3\left(C_3 L_1 L_4 R_3 R_4 g_m + 2C_4 L_1 L_4 R_3 R_4 g_m\right) + s^2\left(C_3 L_4 R_3 R_4 + 2C_4 L_4 R_3 R_4 + 2L_1 L_4 R_3 g_m + L_1 L_4 R_4 g_m\right) + s\left(2L_1 R_3 R_4 g_m + 2L_4 R_3 + L_4 R_4\right)}$$

**10.97** **INVALID-ORDER-97** $Z(s) = \left(L_1 s,\ \infty,\ \frac{R_3}{C_3 R_3 s + 1},\ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_4 L_1 L_4 R_3 R_4 g_m s^3 + L_1 L_4 R_3 g_m s^2 + L_1 R_3 R_4 g_m s}{C_3 C_4 L_1 L_4 R_3 R_4 g_m s^4 + 2R_3 + R_4 + s^3\left(C_3 C_4 L_4 R_3 R_4 + C_3 L_1 L_4 R_3 g_m + 2C_4 L_1 L_4 R_3 g_m + C_4 L_1 L_4 R_4 g_m\right) + s^2\left(C_3 L_1 R_3 R_4 g_m + C_3 L_4 R_3 + 2C_4 L_4 R_3 + C_4 L_4 R_4 + L_1 L_4 g_m\right) + s\left(C_3 R_3 R_4 + 2L_1 R_3 g_m + L_1 R_4 g_m + L_4\right)}$$

**10.98** **INVALID-ORDER-98** $Z(s) = \left(L_1 s, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ \frac{R_4(C_4 L_4 s^2 + 1)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_4 L_1 L_4 R_3 R_4 g_m s^3 + L_1 R_3 R_4 g_m s}{C_3 C_4 L_1 L_4 R_3 R_4 g_m s^4 + 2R_3 + R_4 + s^3\left(C_3 C_4 L_4 R_3 R_4 + 2C_4 L_1 L_4 R_3 g_m + C_4 L_1 L_4 R_4 g_m\right) + s^2\left(C_3 L_1 R_3 R_4 g_m + 2C_4 L_1 R_3 R_4 g_m + 2C_4 L_4 R_3 + C_4 L_4 R_4\right) + s\left(C_3 R_3 R_4 + 2C_4 R_3 R_4 + 2L_1 R_3 g_m + L_1 R_4 g_m\right)}$$

**10.99** **INVALID-ORDER-99** $Z(s) = \left(L_1 s, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 L_1 R_3 R_4 g_m s^2 + L_1 R_4 g_m s}{2C_3 C_4 L_1 R_3 R_4 g_m s^3 + s^2\left(2C_3 C_4 R_3 R_4 + 2C_3 L_1 R_3 g_m + C_3 L_1 R_4 g_m + 2C_4 L_1 R_4 g_m\right) + s\left(2C_3 R_3 + C_3 R_4 + 2C_4 R_4 + 2L_1 g_m\right) + 2}$$

**10.100** **INVALID-ORDER-100** $Z(s) = \left(L_1 s, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_1 L_4 R_3 g_m s^3 + C_3 L_1 R_3 g_m s + C_4 L_1 L_4 g_m s^2 + L_1 g_m}{C_3 C_4 L_1 L_4 g_m s^3 + C_3 + 2C_4 + s^2\left(2C_3 C_4 L_1 R_3 g_m + C_3 C_4 L_4\right) + s\left(2C_3 C_4 R_3 + C_3 L_1 g_m + 2C_4 L_1 g_m\right)}$$

**10.101** **INVALID-ORDER-101** $Z(s) = \left(L_1 s, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 L_1 L_4 R_3 g_m s^3 + L_1 L_4 g_m s^2}{2C_3 C_4 L_1 L_4 R_3 g_m s^4 + s^3\left(2C_3 C_4 L_4 R_3 + C_3 L_1 L_4 g_m + 2C_4 L_1 L_4 g_m\right) + s^2\left(2C_3 L_1 R_3 g_m + C_3 L_4 + 2C_4 L_4\right) + s\left(2C_3 R_3 + 2L_1 g_m\right) + 2}$$

**10.102** **INVALID-ORDER-102** $Z(s) = \left(L_1 s, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_1 L_4 R_3 g_m s^3 + L_1 g_m + s^2\left(C_3 C_4 L_1 R_3 R_4 g_m + C_4 L_1 L_4 g_m\right) + s\left(C_3 L_1 R_3 g_m + C_4 L_1 R_4 g_m\right)}{C_3 C_4 L_1 L_4 g_m s^3 + C_3 + 2C_4 + s^2\left(2C_3 C_4 L_1 R_3 g_m + C_3 C_4 L_1 R_4 g_m + C_3 C_4 L_4\right) + s\left(2C_3 C_4 R_3 + C_3 C_4 R_4 + C_3 L_1 g_m + 2C_4 L_1 g_m\right)}$$

**10.103** **INVALID-ORDER-103** $Z(s) = \left(L_1 s, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 L_1 L_4 R_3 R_4 g_m s^3 + L_1 L_4 R_4 g_m s^2}{2C_3 C_4 L_1 L_4 R_3 R_4 g_m s^4 + 2R_4 + s^3\left(2C_3 C_4 L_4 R_3 R_4 + 2C_3 L_1 L_4 R_3 g_m + C_3 L_1 L_4 R_4 g_m + 2C_4 L_1 L_4 R_4 g_m\right) + s^2\left(2C_3 L_1 R_3 R_4 g_m + 2C_3 L_4 R_3 + C_3 L_4 R_4 + 2C_4 L_4 R_4 + 2L_1 L_4 g_m\right) + s\left(2C_3 R_3 R_4 + 2L_1 R_4 g_m + 2L_4\right)}$$

**10.104** **INVALID-ORDER-104** $Z(s) = \left(L_1 s, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_1 L_4 R_3 R_4 g_m s^4 + L_1 R_4 g_m s + s^3\left(C_3 L_1 L_4 R_3 g_m + C_4 L_1 L_4 R_4 g_m\right) + s^2\left(C_3 L_1 R_3 R_4 g_m + L_1 L_4 g_m\right)}{s^4\left(2C_3 C_4 L_1 L_4 R_3 g_m + C_3 C_4 L_1 L_4 R_4 g_m\right) + s^3\left(2C_3 C_4 L_4 R_3 + C_3 C_4 L_4 R_4 + C_3 L_1 L_4 g_m + 2C_4 L_1 L_4 g_m\right) + s^2\left(2C_3 L_1 R_3 g_m + C_3 L_1 R_4 g_m + C_3 L_4 + 2C_4 L_4\right) + s\left(2C_3 R_3 + C_3 R_4 + 2L_1 g_m\right) + 2}$$

**10.105** **INVALID-ORDER-105** $Z(s) = \left(L_1 s, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{R_4(C_4 L_4 s^2 + 1)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_1 L_4 R_3 R_4 g_m s^4 + C_3 L_1 R_3 R_4 g_m s^2 + C_4 L_1 L_4 R_4 g_m s^3 + L_1 R_4 g_m s}{s^4\left(2C_3 C_4 L_1 L_4 R_3 g_m + C_3 C_4 L_1 L_4 R_4 g_m\right) + s^3\left(2C_3 C_4 L_1 R_3 R_4 g_m + 2C_3 C_4 L_4 R_3 + C_3 C_4 L_4 R_4 + 2C_4 L_1 L_4 g_m\right) + s^2\left(2C_3 C_4 R_3 R_4 + 2C_3 L_1 R_3 g_m + C_3 L_1 R_4 g_m + 2C_4 L_1 R_4 g_m + 2C_4 L_4\right) + s\left(2C_3 R_3 + C_3 R_4 + 2C_4 R_4 + 2L_1 g_m\right) + 2}$$

**10.106** **INVALID-ORDER-106** $Z(s) = \left(L_1 s, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ R_4, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 L_1 L_3 R_4 g_m s^3 + L_1 R_4 g_m s}{2C_3 L_1 L_3 g_m s^3 + s^2\left(C_3 L_1 R_4 g_m + 2C_3 L_3\right) + s\left(C_3 R_4 + 2L_1 g_m\right) + 2}$$

**10.107** **INVALID-ORDER-107** $Z(s) = \left(L_1 s, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 L_1 L_3 g_m s^2 + L_1 g_m}{2 C_3 C_4 L_1 L_3 g_m s^3 + 2 C_3 C_4 L_3 s^2 + C_3 + 2 C_4 + s\left(C_3 L_1 g_m + 2 C_4 L_1 g_m\right)}$$

**10.108** **INVALID-ORDER-108** $Z(s) = \left(L_1 s, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 L_1 L_3 R_4 g_m s^3 + L_1 R_4 g_m s}{2 C_3 C_4 L_1 L_3 R_4 g_m s^4 + s^3\left(2 C_3 C_4 L_3 R_4 + 2 C_3 L_1 L_3 g_m\right) + s^2\left(C_3 L_1 R_4 g_m + 2 C_3 L_3 + 2 C_4 L_1 R_4 g_m\right) + s\left(C_3 R_4 + 2 C_4 R_4 + 2 L_1 g_m\right) + 2}$$

**10.109** **INVALID-ORDER-109** $Z(s) = \left(L_1 s, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 R_4 g_m s^3 + C_3 L_1 L_3 g_m s^2 + C_4 L_1 R_4 g_m s + L_1 g_m}{2 C_3 C_4 L_1 L_3 g_m s^3 + C_3 + 2 C_4 + s^2\left(C_3 C_4 L_1 R_4 g_m + 2 C_3 C_4 L_3\right) + s\left(C_3 C_4 R_4 + C_3 L_1 g_m + 2 C_4 L_1 g_m\right)}$$

**10.110** **INVALID-ORDER-110** $Z(s) = \left(L_1 s, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 g_m s^4 + L_1 g_m + s^2\left(C_3 L_1 L_3 g_m + C_4 L_1 L_4 g_m\right)}{C_3 + 2 C_4 + s^3\left(2 C_3 C_4 L_1 L_3 g_m + C_3 C_4 L_1 L_4 g_m\right) + s^2\left(2 C_3 C_4 L_3 + C_3 C_4 L_4\right) + s\left(C_3 L_1 g_m + 2 C_4 L_1 g_m\right)}$$

**10.111** **INVALID-ORDER-111** $Z(s) = \left(L_1 s, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 L_1 L_3 L_4 g_m s^4 + L_1 L_4 g_m s^2}{2 C_3 C_4 L_1 L_3 L_4 g_m s^5 + 2 C_3 C_4 L_3 L_4 s^4 + 2 L_1 g_m s + s^3\left(2 C_3 L_1 L_3 g_m + C_3 L_1 L_4 g_m + 2 C_4 L_1 L_4 g_m\right) + s^2\left(2 C_3 L_3 + C_3 L_4 + 2 C_4 L_4\right) + 2}$$

**10.112** **INVALID-ORDER-112** $Z(s) = \left(L_1 s, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 g_m s^4 + C_3 C_4 L_1 L_3 R_4 g_m s^3 + C_4 L_1 R_4 g_m s + L_1 g_m + s^2\left(C_3 L_1 L_3 g_m + C_4 L_1 L_4 g_m\right)}{C_3 + 2 C_4 + s^3\left(2 C_3 C_4 L_1 L_3 g_m + C_3 C_4 L_1 L_4 g_m\right) + s^2\left(C_3 C_4 L_1 R_4 g_m + 2 C_3 C_4 L_3 + C_3 C_4 L_4\right) + s\left(C_3 C_4 R_4 + C_3 L_1 g_m + 2 C_4 L_1 g_m\right)}$$

**10.113** **INVALID-ORDER-113** $Z(s) = \left(L_1 s, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 L_1 L_3 L_4 R_4 g_m s^4 + L_1 L_4 R_4 g_m s^2}{2 C_3 C_4 L_1 L_3 L_4 R_4 g_m s^5 + 2 R_4 + s^4\left(2 C_3 C_4 L_3 L_4 R_4 + 2 C_3 L_1 L_3 L_4 g_m\right) + s^3\left(2 C_3 L_1 L_3 R_4 g_m + C_3 L_1 L_4 R_4 g_m + 2 C_3 L_3 L_4 + 2 C_4 L_1 L_4 R_4 g_m\right) + s^2\left(2 C_3 L_3 R_4 + C_3 L_4 R_4 + 2 C_4 L_4 R_4 + 2 L_1 L_4 g_m\right) + s\left(2 L_1 R_4 g_m + 2 L_4\right)}$$

**10.114** **INVALID-ORDER-114** $Z(s) = \left(L_1 s, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 R_4 g_m s^5 + C_3 L_1 L_3 L_4 g_m s^4 + L_1 L_4 g_m s^2 + L_1 R_4 g_m s + s^3\left(C_3 L_1 L_3 R_4 g_m + C_4 L_1 L_4 R_4 g_m\right)}{2 C_3 C_4 L_1 L_3 L_4 g_m s^5 + s^4\left(C_3 C_4 L_1 L_4 R_4 g_m + 2 C_3 C_4 L_3 L_4\right) + s^3\left(C_3 C_4 L_4 R_4 + 2 C_3 L_1 L_3 g_m + C_3 L_1 L_4 g_m + 2 C_4 L_1 L_4 g_m\right) + s^2\left(C_3 L_1 R_4 g_m + 2 C_3 L_3 + C_3 L_4 + 2 C_4 L_4\right) + s\left(C_3 R_4 + 2 L_1 g_m\right) + 2}$$

**10.115** **INVALID-ORDER-115** $Z(s) = \left(L_1 s, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 R_4 g_m s^5 + L_1 R_4 g_m s + s^3\left(C_3 L_1 L_3 R_4 g_m + C_4 L_1 L_4 R_4 g_m\right)}{2 C_3 C_4 L_1 L_3 L_4 g_m s^5 + s^4\left(2 C_3 C_4 L_1 L_3 R_4 g_m + C_3 C_4 L_1 L_4 R_4 g_m + 2 C_3 C_4 L_3 L_4\right) + s^3\left(2 C_3 C_4 L_3 R_4 + C_3 C_4 L_4 R_4 + 2 C_3 L_1 L_3 g_m + 2 C_4 L_1 L_4 g_m\right) + s^2\left(C_3 L_1 R_4 g_m + 2 C_3 L_3 + 2 C_4 L_1 R_4 g_m + 2 C_4 L_4\right) + s\left(C_3 R_4 + 2 C_4 R_4 + 2 L_1 g_m\right) + 2}$$

**10.116  INVALID-ORDER-116** $Z(s) = \left(L_1 s,\ \infty,\ \frac{L_3 s}{C_3 L_3 s^2 + 1},\ R_4,\ \infty,\ \infty\right)$

$$H(s) = \frac{L_1 L_3 R_4 g_m s^2}{C_3 L_1 L_3 R_4 g_m s^3 + R_4 + s^2 \left(C_3 L_3 R_4 + 2 L_1 L_3 g_m\right) + s \left(L_1 R_4 g_m + 2 L_3\right)}$$

**10.117  INVALID-ORDER-117** $Z(s) = \left(L_1 s,\ \infty,\ \frac{L_3 s}{C_3 L_3 s^2 + 1},\ \frac{1}{C_4 s},\ \infty,\ \infty\right)$

$$H(s) = \frac{L_1 L_3 g_m s^2}{L_1 g_m s + s^3 \left(C_3 L_1 L_3 g_m + 2 C_4 L_1 L_3 g_m\right) + s^2 \left(C_3 L_3 + 2 C_4 L_3\right) + 1}$$

**10.118  INVALID-ORDER-118** $Z(s) = \left(L_1 s,\ \infty,\ \frac{L_3 s}{C_3 L_3 s^2 + 1},\ \frac{R_4}{C_4 R_4 s + 1},\ \infty,\ \infty\right)$

$$H(s) = \frac{L_1 L_3 R_4 g_m s^2}{R_4 + s^3 \left(C_3 L_1 L_3 R_4 g_m + 2 C_4 L_1 L_3 R_4 g_m\right) + s^2 \left(C_3 L_3 R_4 + 2 C_4 L_3 R_4 + 2 L_1 L_3 g_m\right) + s \left(L_1 R_4 g_m + 2 L_3\right)}$$

**10.119  INVALID-ORDER-119** $Z(s) = \left(L_1 s,\ \infty,\ \frac{L_3 s}{C_3 L_3 s^2 + 1},\ R_4 + \frac{1}{C_4 s},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_4 L_1 L_3 R_4 g_m s^3 + L_1 L_3 g_m s^2}{C_3 C_4 L_1 L_3 R_4 g_m s^4 + s^3 \left(C_3 C_4 L_3 R_4 + C_3 L_1 L_3 g_m + 2 C_4 L_1 L_3 g_m\right) + s^2 \left(C_3 L_3 + C_4 L_1 R_4 g_m + 2 C_4 L_3\right) + s \left(C_4 R_4 + L_1 g_m\right) + 1}$$

**10.120  INVALID-ORDER-120** $Z(s) = \left(L_1 s,\ \infty,\ \frac{L_3 s}{C_3 L_3 s^2 + 1},\ L_4 s + \frac{1}{C_4 s},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_4 L_1 L_3 L_4 g_m s^4 + L_1 L_3 g_m s^2}{C_3 C_4 L_1 L_3 L_4 g_m s^5 + C_3 C_4 L_3 L_4 s^4 + L_1 g_m s + s^3 \left(C_3 L_1 L_3 g_m + 2 C_4 L_1 L_3 g_m + C_4 L_1 L_4 g_m\right) + s^2 \left(C_3 L_3 + 2 C_4 L_3 + C_4 L_4\right) + 1}$$

**10.121  INVALID-ORDER-121** $Z(s) = \left(L_1 s,\ \infty,\ \frac{L_3 s}{C_3 L_3 s^2 + 1},\ \frac{L_4 s}{C_4 L_4 s^2 + 1},\ \infty,\ \infty\right)$

$$H(s) = \frac{L_1 L_3 L_4 g_m s^2}{2 L_3 + L_4 + s^3 \left(C_3 L_1 L_3 L_4 g_m + 2 C_4 L_1 L_3 L_4 g_m\right) + s^2 \left(C_3 L_3 L_4 + 2 C_4 L_3 L_4\right) + s \left(2 L_1 L_3 g_m + L_1 L_4 g_m\right)}$$

**10.122  INVALID-ORDER-122** $Z(s) = \left(L_1 s,\ \infty,\ \frac{L_3 s}{C_3 L_3 s^2 + 1},\ L_4 s + R_4 + \frac{1}{C_4 s},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_4 L_1 L_3 L_4 g_m s^4 + C_4 L_1 L_3 R_4 g_m s^3 + L_1 L_3 g_m s^2}{C_3 C_4 L_1 L_3 L_4 g_m s^5 + s^4 \left(C_3 C_4 L_1 L_3 R_4 g_m + C_3 C_4 L_3 L_4\right) + s^3 \left(C_3 C_4 L_3 R_4 + C_3 L_1 L_3 g_m + 2 C_4 L_1 L_3 g_m + C_4 L_1 L_4 g_m\right) + s^2 \left(C_3 L_3 + C_4 L_1 R_4 g_m + 2 C_4 L_3 + C_4 L_4\right) + s \left(C_4 R_4 + L_1 g_m\right) + 1}$$

**10.123  INVALID-ORDER-123** $Z(s) = \left(L_1 s,\ \infty,\ \frac{L_3 s}{C_3 L_3 s^2 + 1},\ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4},\ \infty,\ \infty\right)$

$$H(s) = \frac{L_1 L_3 L_4 R_4 g_m s^2}{2 L_3 R_4 + L_4 R_4 + s^3 \left(C_3 L_1 L_3 L_4 R_4 g_m + 2 C_4 L_1 L_3 L_4 R_4 g_m\right) + s^2 \left(C_3 L_3 L_4 R_4 + 2 C_4 L_3 L_4 R_4 + 2 L_1 L_3 L_4 g_m\right) + s \left(2 L_1 L_3 R_4 g_m + L_1 L_4 R_4 g_m + 2 L_3 L_4\right)}$$

**10.124  INVALID-ORDER-124** $Z(s) = \left(L_1 s,\ \infty,\ \frac{L_3 s}{C_3 L_3 s^2 + 1},\ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_4 L_1 L_3 L_4 R_4 g_m s^4 + L_1 L_3 L_4 g_m s^3 + L_1 L_3 R_4 g_m s^2}{C_3 C_4 L_1 L_3 L_4 R_4 g_m s^5 + R_4 + s^4 \left(C_3 C_4 L_3 L_4 R_4 + C_3 L_1 L_3 L_4 g_m + 2 C_4 L_1 L_3 L_4 g_m\right) + s^3 \left(C_3 L_1 L_3 R_4 g_m + C_3 L_3 L_4 + C_4 L_1 L_4 R_4 g_m + 2 C_4 L_3 L_4\right) + s^2 \left(C_3 L_3 R_4 + C_4 L_4 R_4 + 2 L_1 L_3 g_m + L_1 L_4 g_m\right) + s \left(L_1 R_4 g_m + 2 L_3 + L_4\right)}$$

**10.125  INVALID-ORDER-125** $Z(s) = \left(L_1 s,\ \infty,\ \frac{L_3 s}{C_3 L_3 s^2 + 1},\ \frac{R_4 \left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_4 L_1 L_3 L_4 R_4 g_m s^4 + L_1 L_3 R_4 g_m s^2}{C_3 C_4 L_1 L_3 L_4 R_4 g_m s^5 + R_4 + s^4 \left(C_3 C_4 L_3 L_4 R_4 + 2 C_4 L_1 L_3 L_4 g_m\right) + s^3 \left(C_3 L_1 L_3 R_4 g_m + 2 C_4 L_1 L_3 R_4 g_m + C_4 L_1 L_4 R_4 g_m + 2 C_4 L_3 L_4\right) + s^2 \left(C_3 L_3 R_4 + 2 C_4 L_3 R_4 + C_4 L_4 R_4 + 2 L_1 L_3 g_m\right) + s \left(L_1 R_4 g_m + 2 L_3\right)}$$

**10.126** **INVALID-ORDER-126** $Z(s) = \left(L_1 s, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ R_4, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 L_1 L_3 R_4 g_m s^3 + C_3 L_1 R_3 R_4 g_m s^2 + L_1 R_4 g_m s}{2 C_3 L_1 L_3 g_m s^3 + s^2 \left(2 C_3 L_1 R_3 g_m + C_3 L_1 R_4 g_m + 2 C_3 L_3\right) + s \left(2 C_3 R_3 + C_3 R_4 + 2 L_1 g_m\right) + 2}$$

**10.127** **INVALID-ORDER-127** $Z(s) = \left(L_1 s, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 L_1 L_3 g_m s^2 + C_3 L_1 R_3 g_m s + L_1 g_m}{2 C_3 C_4 L_1 L_3 g_m s^3 + C_3 + 2 C_4 + s^2 \left(2 C_3 C_4 L_1 R_3 g_m + 2 C_3 C_4 L_3\right) + s \left(2 C_3 C_4 R_3 + C_3 L_1 g_m + 2 C_4 L_1 g_m\right)}$$

**10.128** **INVALID-ORDER-128** $Z(s) = \left(L_1 s, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 L_1 L_3 R_4 g_m s^3 + C_3 L_1 R_3 R_4 g_m s^2 + L_1 R_4 g_m s}{2 C_3 C_4 L_1 L_3 R_4 g_m s^4 + s^3 \left(2 C_3 C_4 L_1 R_3 R_4 g_m + 2 C_3 C_4 L_3 R_4 + 2 C_3 L_1 L_3 g_m\right) + s^2 \left(2 C_3 C_4 R_3 R_4 + 2 C_3 L_1 R_3 g_m + C_3 L_1 R_4 g_m + 2 C_3 L_3 + 2 C_4 L_1 R_4 g_m\right) + s \left(2 C_3 R_3 + C_3 R_4 + 2 C_4 R_4 + 2 L_1 g_m\right) + 2}$$

**10.129** **INVALID-ORDER-129** $Z(s) = \left(L_1 s, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 R_4 g_m s^3 + L_1 g_m + s^2 \left(C_3 C_4 L_1 R_3 R_4 g_m + C_3 L_1 L_3 g_m\right) + s \left(C_3 L_1 R_3 g_m + C_4 L_1 R_4 g_m\right)}{2 C_3 C_4 L_1 L_3 g_m s^3 + C_3 + 2 C_4 + s^2 \left(2 C_3 C_4 L_1 R_3 g_m + C_3 C_4 L_1 R_4 g_m + 2 C_3 C_4 L_3\right) + s \left(2 C_3 C_4 R_3 + C_3 C_4 R_4 + C_3 L_1 g_m + 2 C_4 L_1 g_m\right)}$$

**10.130** **INVALID-ORDER-130** $Z(s) = \left(L_1 s, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 g_m s^4 + C_3 C_4 L_1 L_4 R_3 g_m s^3 + C_3 L_1 R_3 g_m s + L_1 g_m + s^2 \left(C_3 L_1 L_3 g_m + C_4 L_1 L_4 g_m\right)}{C_3 + 2 C_4 + s^3 \left(2 C_3 C_4 L_1 L_3 g_m + C_3 C_4 L_1 L_4 g_m\right) + s^2 \left(2 C_3 C_4 L_1 R_3 g_m + 2 C_3 C_4 L_3 + C_3 C_4 L_4\right) + s \left(2 C_3 C_4 R_3 + C_3 L_1 g_m + 2 C_4 L_1 g_m\right)}$$

**10.131** **INVALID-ORDER-131** $Z(s) = \left(L_1 s, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 L_1 L_3 L_4 g_m s^4 + C_3 L_1 L_4 R_3 g_m s^3 + L_1 L_4 g_m s^2}{2 C_3 C_4 L_1 L_3 L_4 g_m s^5 + s^4 \left(2 C_3 C_4 L_1 L_4 R_3 g_m + 2 C_3 C_4 L_3 L_4\right) + s^3 \left(2 C_3 C_4 L_4 R_3 + 2 C_3 L_1 L_3 g_m + C_3 L_1 L_4 g_m + 2 C_4 L_1 L_4 g_m\right) + s^2 \left(2 C_3 L_1 R_3 g_m + 2 C_3 L_3 + C_3 L_4 + 2 C_4 L_4\right) + s \left(2 C_3 R_3 + 2 L_1 g_m\right) + 2}$$

**10.132** **INVALID-ORDER-132** $Z(s) = \left(L_1 s, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 g_m s^4 + L_1 g_m + s^3 \left(C_3 C_4 L_1 L_3 R_4 g_m + C_3 C_4 L_1 L_4 R_3 g_m\right) + s^2 \left(C_3 C_4 L_1 R_3 R_4 g_m + C_3 L_1 L_3 g_m + C_4 L_1 L_4 g_m\right) + s \left(C_3 L_1 R_3 g_m + C_4 L_1 R_4 g_m\right)}{C_3 + 2 C_4 + s^3 \left(2 C_3 C_4 L_1 L_3 g_m + C_3 C_4 L_1 L_4 g_m\right) + s^2 \left(2 C_3 C_4 L_1 R_3 g_m + C_3 C_4 L_1 R_4 g_m + 2 C_3 C_4 L_3 + C_3 C_4 L_4\right) + s \left(2 C_3 C_4 R_3 + C_3 C_4 R_4 + C_3 L_1 g_m + 2 C_4 L_1 g_m\right)}$$

**10.133** **INVALID-ORDER-133** $Z(s) = \left(L_1 s, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 L_1 L_3 L_4 R_4 g_m s^4 + C_3 L_1 L_4 R_3 R_4 g_m s^3 + L_1 L_4 R_4 g_m s^2}{2 C_3 C_4 L_1 L_3 L_4 R_4 g_m s^5 + 2 R_4 + s^4 \left(2 C_3 C_4 L_1 L_4 R_3 R_4 g_m + 2 C_3 C_4 L_3 L_4 R_4 + 2 C_3 L_1 L_3 L_4 g_m\right) + s^3 \left(2 C_3 C_4 L_4 R_3 R_4 + 2 C_3 L_1 L_3 R_4 g_m + 2 C_3 L_1 L_4 R_3 g_m + C_3 L_1 L_4 R_4 g_m + 2 C_3 L_3 L_4 + 2 C_4 L_1 L_4 R_4 g_m\right) + s^2 \left(2 C_3 L_1 R_3 R_4 g_m + 2 C_3 L_3 R_4 + 2 C_3 L_4 R_3 + C_3 L_4 R_4 + 2 C_4 L_4 \cdots\right)}$$

**10.134** **INVALID-ORDER-134** $Z(s) = \left(L_1 s, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 R_4 g_m s^5 + L_1 R_4 g_m s + s^4 \left(C_3 C_4 L_1 L_4 R_3 R_4 g_m + C_3 L_1 L_3 L_4 g_m\right) + s^3 \left(C_3 L_1 L_3 R_4 g_m + C_3 L_1 L_4 R_3 g_m + C_4 L_1 L_4 R_4 g_m\right) + s^2 \left(C_3 L_1 R_3 R_4 g_m + L_1 L_4 g_m\right)}{2 C_3 C_4 L_1 L_3 L_4 g_m s^5 + s^4 \left(2 C_3 C_4 L_1 L_4 R_3 g_m + C_3 C_4 L_1 L_4 R_4 g_m + 2 C_3 C_4 L_3 L_4\right) + s^3 \left(2 C_3 C_4 L_4 R_3 + C_3 C_4 L_4 R_4 + 2 C_3 L_1 L_3 g_m + C_3 L_1 L_4 g_m + 2 C_4 L_1 L_4 g_m\right) + s^2 \left(2 C_3 L_1 R_3 g_m + C_3 L_1 R_4 g_m + 2 C_3 L_3 + C_3 L_4 + 2 C_4 L_4\right) + s \left(2 C_3 R_3 + C_3 R_4 + 2 L_1 g_m\right) + 2}$$

**10.135** **INVALID-ORDER-135** $Z(s) = \left(L_1 s, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{R_4 \left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 R_4 g_m s^5 + C_3 C_4 L_1 L_4 R_3 R_4 g_m s^4 + C_3 L_1 R_3 R_4 g_m s^2 + L_1 R_4 g_m s + s^3 \left(C_3 L_1 L_3 R_4 g_m + C_4 L_1 L_4 R_4 g_m\right)}{2 C_3 C_4 L_1 L_3 L_4 g_m s^5 + s^4 \left(2 C_3 C_4 L_1 L_3 R_4 g_m + 2 C_3 C_4 L_1 L_4 R_3 g_m + C_3 C_4 L_1 L_4 R_4 g_m + 2 C_3 C_4 L_3 L_4\right) + s^3 \left(2 C_3 C_4 L_1 R_3 R_4 g_m + 2 C_3 C_4 L_3 R_4 + 2 C_3 C_4 L_4 R_3 + C_3 C_4 L_4 R_4 + 2 C_3 L_1 L_3 g_m + 2 C_4 L_1 L_4 g_m\right) + s^2 \left(2 C_3 C_4 R_3 R_4 + 2 C_3 L_1 R_3 g_m + C_3 L_1 R_4 g_m + 2 C_3 L_3 + 2 C_4 L \cdots\right)}$$

**10.136  INVALID-ORDER-136** $Z(s) = \left(L_1 s, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ R_4, \ \infty, \ \infty\right)$

$$H(s) = \frac{L_1 L_3 R_3 R_4 g_m s^2}{C_3 L_1 L_3 R_3 R_4 g_m s^3 + R_3 R_4 + s^2 \left(C_3 L_3 R_3 R_4 + 2 L_1 L_3 R_3 g_m + L_1 L_3 R_4 g_m\right) + s \left(L_1 R_3 R_4 g_m + 2 L_3 R_3 + L_3 R_4\right)}$$

**10.137  INVALID-ORDER-137** $Z(s) = \left(L_1 s, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{L_1 L_3 R_3 g_m s^2}{R_3 + s^3 \left(C_3 L_1 L_3 R_3 g_m + 2 C_4 L_1 L_3 R_3 g_m\right) + s^2 \left(C_3 L_3 R_3 + 2 C_4 L_3 R_3 + L_1 L_3 g_m\right) + s \left(L_1 R_3 g_m + L_3\right)}$$

**10.138  INVALID-ORDER-138** $Z(s) = \left(L_1 s, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{L_1 L_3 R_3 R_4 g_m s^2}{R_3 R_4 + s^3 \left(C_3 L_1 L_3 R_3 R_4 g_m + 2 C_4 L_1 L_3 R_3 R_4 g_m\right) + s^2 \left(C_3 L_3 R_3 R_4 + 2 C_4 L_3 R_3 R_4 + 2 L_1 L_3 R_3 g_m + L_1 L_3 R_4 g_m\right) + s \left(L_1 R_3 R_4 g_m + 2 L_3 R_3 + L_3 R_4\right)}$$

**10.139  INVALID-ORDER-139** $Z(s) = \left(L_1 s, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_4 L_1 L_3 R_3 R_4 g_m s^3 + L_1 L_3 R_3 g_m s^2}{C_3 C_4 L_1 L_3 R_3 R_4 g_m s^4 + R_3 + s^3 \left(C_3 C_4 L_3 R_3 R_4 + C_3 L_1 L_3 R_3 g_m + 2 C_4 L_1 L_3 R_3 g_m + C_4 L_1 L_3 R_4 g_m\right) + s^2 \left(C_3 L_3 R_3 + C_4 L_1 R_3 R_4 g_m + 2 C_4 L_3 R_3 + C_4 L_3 R_4 + L_1 L_3 g_m\right) + s \left(C_4 R_3 R_4 + L_1 R_3 g_m + L_3\right)}$$

**10.140  INVALID-ORDER-140** $Z(s) = \left(L_1 s, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_4 L_1 L_3 L_4 R_3 g_m s^4 + L_1 L_3 R_3 g_m s^2}{C_3 C_4 L_1 L_3 L_4 R_3 g_m s^5 + R_3 + s^4 \left(C_3 C_4 L_3 L_4 R_3 + C_4 L_1 L_3 L_4 g_m\right) + s^3 \left(C_3 L_1 L_3 R_3 g_m + 2 C_4 L_1 L_3 R_3 g_m + C_4 L_1 L_4 R_3 g_m + C_4 L_3 L_4\right) + s^2 \left(C_3 L_3 R_3 + 2 C_4 L_3 R_3 + C_4 L_4 R_3 + L_1 L_3 g_m\right) + s \left(L_1 R_3 g_m + L_3\right)}$$

**10.141  INVALID-ORDER-141** $Z(s) = \left(L_1 s, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{L_1 L_3 L_4 R_3 g_m s^2}{2 L_3 R_3 + L_4 R_3 + s^3 \left(C_3 L_1 L_3 L_4 R_3 g_m + 2 C_4 L_1 L_3 L_4 R_3 g_m\right) + s^2 \left(C_3 L_3 L_4 R_3 + 2 C_4 L_3 L_4 R_3 + L_1 L_3 L_4 g_m\right) + s \left(2 L_1 L_3 R_3 g_m + L_1 L_4 R_3 g_m + L_3 L_4\right)}$$

**10.142  INVALID-ORDER-142** $Z(s) = \left(L_1 s, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_4 L_1 L_3 L_4 R_3 g_m s^4 + C_4 L_1 L_3 R_3 R_4 g_m s^3 + L_1 L_3 R_3 g_m s^2}{C_3 C_4 L_1 L_3 L_4 R_3 g_m s^5 + R_3 + s^4 \left(C_3 C_4 L_1 L_3 R_3 R_4 g_m + C_3 C_4 L_3 L_4 R_3 + C_4 L_1 L_3 L_4 g_m\right) + s^3 \left(C_3 C_4 L_3 R_3 R_4 + C_3 L_1 L_3 R_3 g_m + 2 C_4 L_1 L_3 R_3 g_m + C_4 L_1 L_4 R_3 g_m + C_4 L_1 L_3 R_4 g_m + C_4 L_3 L_4\right) + s^2 \left(C_3 L_3 R_3 + C_4 L_1 R_3 R_4 g_m + 2 C_4 L_3 R_3 + C_4 L_3 R_4 + C_4 L_4 R_3 + L_1 L_3 g_m\right)}$$

**10.143  INVALID-ORDER-143** $Z(s) = \left(L_1 s, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty\right)$

$$H(s) = \frac{L_1 L_3 L_4 R_3 R_4 g_m s^2}{2 L_3 R_3 R_4 + L_4 R_3 R_4 + s^3 \left(C_3 L_1 L_3 L_4 R_3 R_4 g_m + 2 C_4 L_1 L_3 L_4 R_3 R_4 g_m\right) + s^2 \left(C_3 L_3 L_4 R_3 R_4 + 2 C_4 L_3 L_4 R_3 R_4 + 2 L_1 L_3 L_4 R_3 g_m + L_1 L_3 L_4 R_4 g_m\right) + s \left(2 L_1 L_3 R_3 R_4 g_m + L_1 L_4 R_3 R_4 g_m + 2 L_3 L_4 R_3 + L_3 L_4 R_4\right)}$$

**10.144  INVALID-ORDER-144** $Z(s) = \left(L_1 s, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_4 L_1 L_3 L_4 R_3 R_4 g_m s^4 + L_1 L_3 L_4 R_3 g_m s^3 + L_1 L_3 R_3 R_4 g_m s^2}{C_3 C_4 L_1 L_3 L_4 R_3 R_4 g_m s^5 + R_3 R_4 + s^4 \left(C_3 C_4 L_3 L_4 R_3 R_4 + C_3 L_1 L_3 L_4 R_3 g_m + 2 C_4 L_1 L_3 L_4 R_3 g_m + C_4 L_1 L_3 L_4 R_4 g_m\right) + s^3 \left(C_3 L_1 L_3 R_3 R_4 g_m + C_3 L_3 L_4 R_3 + C_4 L_1 L_4 R_3 R_4 g_m + 2 C_4 L_3 L_4 R_3 + C_4 L_3 L_4 R_4 + L_1 L_3 L_4 g_m\right) + s^2 \left(C_3 L_3 R_3 R_4 + C_4 L_4 R_3 R_4 + 2 L_1 L_3 R_3 g_m + \cdots\right)}$$

**10.145  INVALID-ORDER-145** $Z(s) = \left(L_1 s, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{R_4 \left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_4 L_1 L_3 L_4 R_3 R_4 g_m s^4 + L_1 L_3 R_3 R_4 g_m s^2}{C_3 C_4 L_1 L_3 L_4 R_3 R_4 g_m s^5 + R_3 R_4 + s^4 \left(C_3 C_4 L_3 L_4 R_3 R_4 + 2 C_4 L_1 L_3 L_4 R_3 g_m + C_4 L_1 L_3 L_4 R_4 g_m\right) + s^3 \left(C_3 L_1 L_3 R_3 R_4 g_m + 2 C_4 L_1 L_3 R_3 R_4 g_m + C_4 L_1 L_4 R_3 R_4 g_m + 2 C_4 L_3 L_4 R_3 + C_4 L_3 L_4 R_4\right) + s^2 \left(C_3 L_3 R_3 R_4 + 2 C_4 L_3 R_3 R_4 + C_4 L_4 R_3 R_4 + 2 L_1 L_3 R_3 g_m + L_1 L_3 R_4 g_m \cdots\right)}$$

**10.146** **INVALID-ORDER-146** $Z(s) = \left(L_1 s, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ R_4, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 L_1 L_3 R_3 R_4 g_m s^3 + L_1 L_3 R_4 g_m s^2 + L_1 R_3 R_4 g_m s}{2R_3 + R_4 + s^3\left(2C_3 L_1 L_3 R_3 g_m + C_3 L_1 L_3 R_4 g_m\right) + s^2\left(2C_3 L_3 R_3 + C_3 L_3 R_4 + 2L_1 L_3 g_m\right) + s\left(2L_1 R_3 g_m + L_1 R_4 g_m + 2L_3\right)}$$

**10.147** **INVALID-ORDER-147** $Z(s) = \left(L_1 s, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 L_1 L_3 R_3 g_m s^3 + L_1 L_3 g_m s^2 + L_1 R_3 g_m s}{2C_3 C_4 L_1 L_3 R_3 g_m s^4 + s^3\left(2C_3 C_4 L_3 R_3 + C_3 L_1 L_3 g_m + 2C_4 L_1 L_3 g_m\right) + s^2\left(C_3 L_3 + 2C_4 L_1 R_3 g_m + 2C_4 L_3\right) + s\left(2C_4 R_3 + L_1 g_m\right) + 1}$$

**10.148** **INVALID-ORDER-148** $Z(s) = \left(L_1 s, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 L_1 L_3 R_3 R_4 g_m s^3 + L_1 L_3 R_4 g_m s^2 + L_1 R_3 R_4 g_m s}{2C_3 C_4 L_1 L_3 R_3 R_4 g_m s^4 + 2R_3 + R_4 + s^3\left(2C_3 C_4 L_3 R_3 R_4 + 2C_3 L_1 L_3 R_3 g_m + C_3 L_1 L_3 R_4 g_m + 2C_4 L_1 L_3 R_4 g_m\right) + s^2\left(2C_3 L_3 R_3 + C_3 L_3 R_4 + 2C_4 L_1 R_3 R_4 g_m + 2C_4 L_3 R_4 + 2L_1 L_3 g_m\right) + s\left(2C_4 R_3 R_4 + 2L_1 R_3 g_m + L_1 R_4 g_m + 2L_3\right)}$$

**10.149** **INVALID-ORDER-149** $Z(s) = \left(L_1 s, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 R_3 R_4 g_m s^4 + L_1 R_3 g_m s + s^3\left(C_3 L_1 L_3 R_3 g_m + C_4 L_1 L_3 R_4 g_m\right) + s^2\left(C_4 L_1 R_3 R_4 g_m + L_1 L_3 g_m\right)}{s^4\left(2C_3 C_4 L_1 L_3 R_3 g_m + C_3 C_4 L_1 L_3 R_4 g_m\right) + s^3\left(2C_3 C_4 L_3 R_3 + C_3 C_4 L_3 R_4 + C_3 L_1 L_3 g_m + 2C_4 L_1 L_3 g_m\right) + s^2\left(C_3 L_3 + 2C_4 L_1 R_3 g_m + C_4 L_1 R_4 g_m + 2C_4 L_3\right) + s\left(2C_4 R_3 + C_4 R_4 + L_1 g_m\right) + 1}$$

**10.150** **INVALID-ORDER-150** $Z(s) = \left(L_1 s, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 R_3 g_m s^5 + C_4 L_1 L_3 L_4 g_m s^4 + L_1 L_3 g_m s^2 + L_1 R_3 g_m s + s^3\left(C_3 L_1 L_3 R_3 g_m + C_4 L_1 L_4 R_3 g_m\right)}{C_3 C_4 L_1 L_3 L_4 g_m s^5 + s^4\left(2C_3 C_4 L_1 L_3 R_3 g_m + C_3 C_4 L_3 L_4\right) + s^3\left(2C_3 C_4 L_3 R_3 + C_3 L_1 L_3 g_m + 2C_4 L_1 L_3 g_m + C_4 L_1 L_4 g_m\right) + s^2\left(C_3 L_3 + 2C_4 L_1 R_3 g_m + 2C_4 L_3 + C_4 L_4\right) + s\left(2C_4 R_3 + L_1 g_m\right) + 1}$$

**10.151** **INVALID-ORDER-151** $Z(s) = \left(L_1 s, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 L_1 L_3 L_4 R_3 g_m s^4 + L_1 L_3 L_4 g_m s^3 + L_1 L_4 R_3 g_m s^2}{2C_3 C_4 L_1 L_3 L_4 R_3 g_m s^5 + 2R_3 + s^4\left(2C_3 C_4 L_3 L_4 R_3 + C_3 L_1 L_3 L_4 g_m + 2C_4 L_1 L_3 L_4 g_m\right) + s^3\left(2C_3 L_1 L_3 R_3 g_m + C_3 L_3 L_4 + 2C_4 L_1 L_4 R_3 g_m + 2C_4 L_3 L_4\right) + s^2\left(2C_3 L_3 R_3 + 2C_4 L_4 R_3 + 2L_1 L_3 g_m + L_1 L_4 g_m\right) + s\left(2L_1 R_3 g_m + 2L_3 + L_4\right)}$$

**10.152** **INVALID-ORDER-152** $Z(s) = \left(L_1 s, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 R_3 g_m s^5 + L_1 R_3 g_m s + s^4\left(C_3 C_4 L_1 L_3 R_3 R_4 g_m + C_4 L_1 L_3 L_4 g_m\right) + s^3\left(C_3 L_1 L_3 R_3 g_m + C_4 L_1 L_3 R_4 g_m + C_4 L_1 L_4 R_3 g_m\right) + s^2\left(C_4 L_1 R_3 R_4 g_m + L_1 L_3 g_m\right)}{C_3 C_4 L_1 L_3 L_4 g_m s^5 + s^4\left(2C_3 C_4 L_1 L_3 R_3 g_m + C_3 C_4 L_1 L_3 R_4 g_m + C_3 C_4 L_3 L_4\right) + s^3\left(2C_3 C_4 L_3 R_3 + C_3 C_4 L_3 R_4 + C_3 L_1 L_3 g_m + 2C_4 L_1 L_3 g_m + C_4 L_1 L_4 g_m\right) + s^2\left(C_3 L_3 + 2C_4 L_1 R_3 g_m + C_4 L_1 R_4 g_m + 2C_4 L_3 + C_4 L_4\right) + s\left(2C_4 R_3 + C_4 R_4 + L_1 g_m\right) + 1}$$

**10.153** **INVALID-ORDER-153** $Z(s) = \left(L_1 s, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 L_1 L_3 L_4 R_3 R_4 g_m s^4 + L_1 L_3 L_4 R_4 g_m s^3 + L_1 L_4 R_3 R_4 g_m s^2}{2C_3 C_4 L_1 L_3 L_4 R_3 R_4 g_m s^5 + 2R_3 R_4 + s^4\left(2C_3 C_4 L_3 L_4 R_3 R_4 + 2C_3 L_1 L_3 L_4 R_3 g_m + C_3 L_1 L_3 L_4 R_4 g_m + 2C_4 L_1 L_3 L_4 R_4 g_m\right) + s^3\left(2C_3 L_1 L_3 R_3 R_4 g_m + 2C_3 L_3 L_4 R_3 + C_3 L_3 L_4 R_4 + 2C_4 L_1 L_4 R_3 R_4 g_m + 2C_4 L_3 L_4 R_4 + 2L_1 L_3 L_4 g_m\right) + s^2\left(2C_3 L_3 R_3 R_4 + 2C_4 L_4 R_3 R_4 + 2L\ldots}$$

**10.154** **INVALID-ORDER-154** $Z(s) = \left(L_1 s, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 R_3 R_4 g_m s^5 + L_1 R_3 R_4 g_m s + s^4\left(C_3 L_1 L_3 L_4 R_3 g_m + C_4 L_1 L_3 L_4 R_4 g_m\right) + s^3\left(C_3 L_1 L_3 R_3 R_4 g_m + C_4 L_1 L_4 R_3 R_4 g_m + L_1 L_3 L_4 g_m\right) + s^2\left(L_1 L_3 R_4 g_m + L_1 L_4 R_3 g_m\right)}{2R_3 + R_4 + s^5\left(2C_3 C_4 L_1 L_3 L_4 R_3 g_m + C_3 C_4 L_1 L_3 L_4 R_4 g_m\right) + s^4\left(2C_3 C_4 L_3 L_4 R_3 + C_3 C_4 L_3 L_4 R_4 + C_3 L_1 L_3 L_4 g_m + 2C_4 L_1 L_3 L_4 g_m\right) + s^3\left(2C_3 L_1 L_3 R_3 g_m + C_3 L_1 L_3 R_4 g_m + C_3 L_3 L_4 + 2C_4 L_1 L_4 R_3 g_m + C_4 L_1 L_4 R_4 g_m + 2C_4 L_3 L_4\right) + s^2\left(2C_3 L_3 R_3 + C_3 L_3 R_4 + 2C_4 L\ldots}$$

**10.155** **INVALID-ORDER-155** $Z(s) = \left(L_1 s, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 R_3 R_4 g_m s^5 + C_4 L_1 L_3 L_4 R_4 g_m s^4 + L_1 L_3 R_4 g_m s^2 + L_1 R_3 R_4 g_m s + s^3\left(C_3 L_1 L_3 R_3 R_4 g_m + C_4 L_1 L_4 R_3 R_4 g_m\right)}{2R_3 + R_4 + s^5\left(2C_3 C_4 L_1 L_3 L_4 R_3 g_m + C_3 C_4 L_1 L_3 L_4 R_4 g_m\right) + s^4\left(2C_3 C_4 L_1 L_3 R_3 R_4 g_m + 2C_3 C_4 L_3 L_4 R_3 + C_3 C_4 L_3 L_4 R_4 + 2C_4 L_1 L_3 L_4 g_m\right) + s^3\left(2C_3 C_4 L_3 R_3 R_4 + 2C_3 L_1 L_3 R_3 g_m + C_3 L_1 L_3 R_4 g_m + 2C_4 L_1 L_3 R_4 g_m + 2C_4 L_1 L_4 R_3 g_m + C_4 L_1 L_4 R_4 g_m + 2C_4 L_3 L_4\right) + s\ldots}$$

**10.156 INVALID-ORDER-156** $Z(s) = \left(L_1 s, \ \infty, \ \frac{R_3(C_3 L_3 s^2 + 1)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ R_4, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 L_1 L_3 R_3 R_4 g_m s^3 + L_1 R_3 R_4 g_m s}{2R_3 + R_4 + s^3 \left(2C_3 L_1 L_3 R_3 g_m + C_3 L_1 L_3 R_4 g_m\right) + s^2 \left(C_3 L_1 R_3 R_4 g_m + 2C_3 L_3 R_3 + C_3 L_3 R_4\right) + s\left(C_3 R_3 R_4 + 2L_1 R_3 g_m + L_1 R_4 g_m\right)}$$

**10.157 INVALID-ORDER-157** $Z(s) = \left(L_1 s, \ \infty, \ \frac{R_3(C_3 L_3 s^2 + 1)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 L_1 L_3 R_3 g_m s^3 + L_1 R_3 g_m s}{2C_3 C_4 L_1 L_3 R_3 g_m s^4 + s^3 \left(2C_3 C_4 L_3 R_3 + C_3 L_1 L_3 g_m\right) + s^2 \left(C_3 L_1 R_3 g_m + C_3 L_3 + 2C_4 L_1 R_3 g_m\right) + s\left(C_3 R_3 + 2C_4 R_3 + L_1 g_m\right) + 1}$$

**10.158 INVALID-ORDER-158** $Z(s) = \left(L_1 s, \ \infty, \ \frac{R_3(C_3 L_3 s^2 + 1)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 L_1 L_3 R_3 R_4 g_m s^3 + L_1 R_3 R_4 g_m s}{2C_3 C_4 L_1 L_3 R_3 R_4 g_m s^4 + 2R_3 + R_4 + s^3 \left(2C_3 C_4 L_3 R_3 R_4 + 2C_3 L_1 L_3 R_3 g_m + C_3 L_1 L_3 R_4 g_m\right) + s^2 \left(C_3 L_1 R_3 R_4 g_m + 2C_3 L_3 R_3 + C_3 L_3 R_4 + 2C_4 L_1 R_3 R_4 g_m\right) + s\left(C_3 R_3 R_4 + 2C_4 R_3 R_4 + 2L_1 R_3 g_m + L_1 R_4 g_m\right)}$$

**10.159 INVALID-ORDER-159** $Z(s) = \left(L_1 s, \ \infty, \ \frac{R_3(C_3 L_3 s^2 + 1)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 R_3 R_4 g_m s^4 + C_3 L_1 L_3 R_3 g_m s^3 + C_4 L_1 R_3 R_4 g_m s^2 + L_1 R_3 g_m s}{s^4 \left(2C_3 C_4 L_1 L_3 R_3 g_m + C_3 C_4 L_1 L_3 R_4 g_m\right) + s^3 \left(C_3 C_4 L_1 R_3 R_4 g_m + 2C_3 C_4 L_3 R_3 + C_3 C_4 L_3 R_4 + C_3 L_1 L_3 g_m\right) + s^2 \left(C_3 C_4 R_3 R_4 + C_3 L_1 R_3 g_m + C_3 L_3 + 2C_4 L_1 R_3 g_m + C_4 L_1 R_4 g_m\right) + s\left(C_3 R_3 + 2C_4 R_3 + C_4 R_4 + L_1 g_m\right) + 1}$$

**10.160 INVALID-ORDER-160** $Z(s) = \left(L_1 s, \ \infty, \ \frac{R_3(C_3 L_3 s^2 + 1)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 R_3 g_m s^5 + L_1 R_3 g_m s + s^3 \left(C_3 L_1 L_3 R_3 g_m + C_4 L_1 L_4 R_3 g_m\right)}{C_3 C_4 L_1 L_3 L_4 g_m s^5 + s^4 \left(2C_3 C_4 L_1 L_3 R_3 g_m + C_3 C_4 L_1 L_4 R_3 g_m + C_3 C_4 L_3 L_4\right) + s^3 \left(2C_3 C_4 L_3 R_3 + C_3 C_4 L_4 R_3 + C_3 L_1 L_3 g_m + C_4 L_1 L_4 g_m\right) + s^2 \left(C_3 L_1 R_3 g_m + C_3 L_3 + 2C_4 L_1 R_3 g_m + C_4 L_4\right) + s\left(C_3 R_3 + 2C_4 R_3 + L_1 g_m\right) + 1}$$

**10.161 INVALID-ORDER-161** $Z(s) = \left(L_1 s, \ \infty, \ \frac{R_3(C_3 L_3 s^2 + 1)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 L_1 L_3 L_4 R_3 g_m s^4 + L_1 L_4 R_3 g_m s^2}{2C_3 C_4 L_1 L_3 L_4 R_3 g_m s^5 + 2R_3 + s^4 \left(2C_3 C_4 L_3 L_4 R_3 + C_3 L_1 L_3 L_4 g_m\right) + s^3 \left(2C_3 L_1 L_3 R_3 g_m + C_3 L_1 L_4 R_3 g_m + C_3 L_3 L_4 + 2C_4 L_1 L_4 R_3 g_m\right) + s^2 \left(2C_3 L_3 R_3 + C_3 L_4 R_3 + 2C_4 L_4 R_3 + L_1 L_4 g_m\right) + s\left(2L_1 R_3 g_m + L_4\right)}$$

**10.162 INVALID-ORDER-162** $Z(s) = \left(L_1 s, \ \infty, \ \frac{R_3(C_3 L_3 s^2 + 1)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 R_3 g_m s^5 + C_3 C_4 L_1 L_3 R_3 R_4 g_m s^4 + C_4 L_1 R_3 R_4 g_m s^2 + L_1 R_3 g_m s + s^3 \left(C_3 L_1 L_3 R_3 g_m + C_4 L_1 L_4 R_3 g_m\right)}{C_3 C_4 L_1 L_3 L_4 g_m s^5 + s^4 \left(2C_3 C_4 L_1 L_3 R_3 g_m + C_3 C_4 L_1 L_3 R_4 g_m + C_3 C_4 L_1 L_4 R_3 g_m + C_3 C_4 L_3 L_4\right) + s^3 \left(C_3 C_4 L_1 R_3 R_4 g_m + 2C_3 C_4 L_3 R_3 + C_3 C_4 L_3 R_4 + C_3 C_4 L_4 R_3 + C_3 L_1 L_3 g_m + C_4 L_1 L_4 g_m\right) + s^2 \left(C_3 C_4 R_3 R_4 + C_3 L_1 R_3 g_m + C_3 L_3 + 2C_4 L_1 R_3 g_m + C_4 L_1 R_4 g_m + C...\right)}$$

**10.163 INVALID-ORDER-163** $Z(s) = \left(L_1 s, \ \infty, \ \frac{R_3(C_3 L_3 s^2 + 1)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 L_1 L_3 L_4 R_3 R_4 g_m s^4 + L_1 L_4 R_3 R_4 g_m s^2}{2C_3 C_4 L_1 L_3 L_4 R_3 R_4 g_m s^5 + 2R_3 R_4 + s^4 \left(2C_3 C_4 L_3 L_4 R_3 R_4 + 2C_3 L_1 L_3 L_4 R_3 g_m + C_3 L_1 L_3 L_4 R_4 g_m\right) + s^3 \left(2C_3 L_1 L_3 R_3 R_4 g_m + C_3 L_1 L_4 R_3 R_4 g_m + 2C_3 L_3 L_4 R_3 + C_3 L_3 L_4 R_4 + 2C_4 L_1 L_4 R_3 R_4 g_m\right) + s^2 \left(2C_3 L_3 R_3 R_4 + C_3 L_4 R_3 R_4 + 2C_4 L_4 R_3 R_4 + 2L_1 L_4 R_3 g_m + L_1 L...\right)}$$

**10.164 INVALID-ORDER-164** $Z(s) = \left(L_1 s, \ \infty, \ \frac{R_3(C_3 L_3 s^2 + 1)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 R_3 R_4 g_m s^5 + C_3 L_1 L_3 L_4 R_3 g_m s^4 + L_1 L_4 R_3 g_m s^2 + L_1 R_3 R_4 g_m s + s^3 \left(C_3 L_1 L_3 R_3 R_4 g_m + C_4 L_1 L_4 R_3 R_4 g_m\right)}{2R_3 + R_4 + s^5 \left(2C_3 C_4 L_1 L_3 L_4 R_3 g_m + C_3 C_4 L_1 L_3 L_4 R_4 g_m\right) + s^4 \left(C_3 C_4 L_1 L_4 R_3 R_4 g_m + 2C_3 C_4 L_3 L_4 R_3 + C_3 C_4 L_3 L_4 R_4 + C_3 L_1 L_3 L_4 g_m\right) + s^3 \left(C_3 C_4 L_4 R_3 R_4 + 2C_3 L_1 L_3 R_3 g_m + C_3 L_1 L_3 R_4 g_m + C_3 L_1 L_4 R_3 g_m + C_3 L_3 L_4 + 2C_4 L_1 L_4 R_3 g_m + C_4 L_1 L_4 R_4 g_m\right) + s^2 \left(C_3...\right)}$$

**10.165 INVALID-ORDER-165** $Z(s) = \left( L_1 s, \ \infty, \ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 R_3 R_4 g_m s^5 + L_1 R_3 R_4 g_m s + s^3\left(C_3 L_1 L_3 R_3 R_4 g_m + C_4 L_1 L_4 R_3 R_4 g_m\right)}{2R_3 + R_4 + s^5\left(2C_3 C_4 L_1 L_3 L_4 R_3 g_m + C_3 C_4 L_1 L_3 L_4 R_4 g_m\right) + s^4\left(2C_3 C_4 L_1 L_3 R_3 R_4 g_m + C_3 C_4 L_1 L_4 R_3 R_4 g_m + 2C_3 C_4 L_3 L_4 R_3 + C_3 C_4 L_3 L_4 R_4\right) + s^3\left(2C_3 C_4 L_3 R_3 R_4 + C_3 C_4 L_4 R_3 R_4 + 2C_3 L_1 L_3 R_3 g_m + C_3 L_1 L_3 R_4 g_m + 2C_4 L_1 L_4 R_3 g_m + C_4 L_1 L_4 R_4 g_m\right) + s^2\left(C_3 L_1\ldots\right.}$$

**10.166 INVALID-ORDER-166** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ R_3, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{R_3 R_4 g_m}{2R_3 g_m + R_4 g_m + s\left(2C_1 R_3 + C_1 R_4\right)}$$

**10.167 INVALID-ORDER-167** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ R_3, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_4 R_3 g_m s^2 + R_3 g_m}{C_1 C_4 L_4 s^3 + g_m + s^2\left(2C_1 C_4 R_3 + C_4 L_4 g_m\right) + s\left(C_1 + 2C_4 R_3 g_m\right)}$$

**10.168 INVALID-ORDER-168** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ R_3, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_4 R_3 g_m s}{2C_1 C_4 L_4 R_3 s^3 + 2R_3 g_m + s^2\left(C_1 L_4 + 2C_4 L_4 R_3 g_m\right) + s\left(2C_1 R_3 + L_4 g_m\right)}$$

**10.169 INVALID-ORDER-169** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ R_3, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_4 R_3 g_m s^2 + C_4 R_3 R_4 g_m s + R_3 g_m}{C_1 C_4 L_4 s^3 + g_m + s^2\left(2C_1 C_4 R_3 + C_1 C_4 R_4 + C_4 L_4 g_m\right) + s\left(C_1 + 2C_4 R_3 g_m + C_4 R_4 g_m\right)}$$

**10.170 INVALID-ORDER-170** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ R_3, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_4 R_3 R_4 g_m s}{2C_1 C_4 L_4 R_3 R_4 s^3 + 2R_3 R_4 g_m + s^2\left(2C_1 L_4 R_3 + C_1 L_4 R_4 + 2C_4 L_4 R_3 R_4 g_m\right) + s\left(2C_1 R_3 R_4 + 2L_4 R_3 g_m + L_4 R_4 g_m\right)}$$

**10.171 INVALID-ORDER-171** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ R_3, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_4 R_3 R_4 g_m s^2 + L_4 R_3 g_m s + R_3 R_4 g_m}{2R_3 g_m + R_4 g_m + s^3\left(2C_1 C_4 L_4 R_3 + C_1 C_4 L_4 R_4\right) + s^2\left(C_1 L_4 + 2C_4 L_4 R_3 g_m + C_4 L_4 R_4 g_m\right) + s\left(2C_1 R_3 + C_1 R_4 + L_4 g_m\right)}$$

**10.172 INVALID-ORDER-172** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ R_3, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_4 R_3 R_4 g_m s^2 + R_3 R_4 g_m}{2R_3 g_m + R_4 g_m + s^3\left(2C_1 C_4 L_4 R_3 + C_1 C_4 L_4 R_4\right) + s^2\left(2C_1 C_4 R_3 R_4 + 2C_4 L_4 R_3 g_m + C_4 L_4 R_4 g_m\right) + s\left(2C_1 R_3 + C_1 R_4 + 2C_4 R_3 R_4 g_m\right)}$$

**10.173 INVALID-ORDER-173** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{g_m}{s^2\left(C_1 C_3 + 2C_1 C_4\right) + s\left(C_3 g_m + 2C_4 g_m\right)}$$

**10.174 INVALID-ORDER-174** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{1}{C_3 s}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 R_4 g_m s + g_m}{C_1 C_3 C_4 R_4 s^3 + s^2\left(C_1 C_3 + 2C_1 C_4 + C_3 C_4 R_4 g_m\right) + s\left(C_3 g_m + 2C_4 g_m\right)}$$

**10.175** **INVALID-ORDER-175** $Z(s) = \left( \frac{1}{C_1 s},\ \infty,\ \frac{1}{C_3 s},\ L_4 s + \frac{1}{C_4 s},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_4 L_4 g_m s^2 + g_m}{C_1 C_3 C_4 L_4 s^4 + C_3 C_4 L_4 g_m s^3 + s^2 \left( C_1 C_3 + 2 C_1 C_4 \right) + s \left( C_3 g_m + 2 C_4 g_m \right)}$$

**10.176** **INVALID-ORDER-176** $Z(s) = \left( \frac{1}{C_1 s},\ \infty,\ \frac{1}{C_3 s},\ \frac{L_4 s}{C_4 L_4 s^2 + 1},\ \infty,\ \infty \right)$

$$H(s) = \frac{L_4 g_m s}{2 C_1 s + 2 g_m + s^3 \left( C_1 C_3 L_4 + 2 C_1 C_4 L_4 \right) + s^2 \left( C_3 L_4 g_m + 2 C_4 L_4 g_m \right)}$$

**10.177** **INVALID-ORDER-177** $Z(s) = \left( \frac{1}{C_1 s},\ \infty,\ \frac{1}{C_3 s},\ L_4 s + R_4 + \frac{1}{C_4 s},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_4 L_4 g_m s^2 + C_4 R_4 g_m s + g_m}{C_1 C_3 C_4 L_4 s^4 + s^3 \left( C_1 C_3 C_4 R_4 + C_3 C_4 L_4 g_m \right) + s^2 \left( C_1 C_3 + 2 C_1 C_4 + C_3 C_4 R_4 g_m \right) + s \left( C_3 g_m + 2 C_4 g_m \right)}$$

**10.178** **INVALID-ORDER-178** $Z(s) = \left( \frac{1}{C_1 s},\ \infty,\ \frac{1}{C_3 s},\ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4},\ \infty,\ \infty \right)$

$$H(s) = \frac{L_4 R_4 g_m s}{2 R_4 g_m + s^3 \left( C_1 C_3 L_4 R_4 + 2 C_1 C_4 L_4 R_4 \right) + s^2 \left( 2 C_1 L_4 + C_3 L_4 R_4 g_m + 2 C_4 L_4 R_4 g_m \right) + s \left( 2 C_1 R_4 + 2 L_4 g_m \right)}$$

**10.179** **INVALID-ORDER-179** $Z(s) = \left( \frac{1}{C_1 s},\ \infty,\ \frac{1}{C_3 s},\ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_4 L_4 R_4 g_m s^2 + L_4 g_m s + R_4 g_m}{C_1 C_3 C_4 L_4 R_4 s^4 + 2 g_m + s^3 \left( C_1 C_3 L_4 + 2 C_1 C_4 L_4 + C_3 C_4 L_4 R_4 g_m \right) + s^2 \left( C_1 C_3 R_4 + C_3 L_4 g_m + 2 C_4 L_4 g_m \right) + s \left( 2 C_1 + C_3 R_4 g_m \right)}$$

**10.180** **INVALID-ORDER-180** $Z(s) = \left( \frac{1}{C_1 s},\ \infty,\ \frac{1}{C_3 s},\ \frac{R_4 \left( C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_4 L_4 R_4 g_m s^2 + R_4 g_m}{C_1 C_3 C_4 L_4 R_4 s^4 + 2 g_m + s^3 \left( 2 C_1 C_4 L_4 + C_3 C_4 L_4 R_4 g_m \right) + s^2 \left( C_1 C_3 R_4 + 2 C_1 C_4 R_4 + 2 C_4 L_4 g_m \right) + s \left( 2 C_1 + C_3 R_4 g_m + 2 C_4 R_4 g_m \right)}$$

**10.181** **INVALID-ORDER-181** $Z(s) = \left( \frac{1}{C_1 s},\ \infty,\ \frac{R_3}{C_3 R_3 s + 1},\ R_4 + \frac{1}{C_4 s},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_4 R_3 R_4 g_m s + R_3 g_m}{C_1 C_3 C_4 R_3 R_4 s^3 + g_m + s^2 \left( C_1 C_3 R_3 + 2 C_1 C_4 R_3 + C_1 C_4 R_4 + C_3 C_4 R_3 R_4 g_m \right) + s \left( C_1 + C_3 R_3 g_m + 2 C_4 R_3 g_m + C_4 R_4 g_m \right)}$$

**10.182** **INVALID-ORDER-182** $Z(s) = \left( \frac{1}{C_1 s},\ \infty,\ \frac{R_3}{C_3 R_3 s + 1},\ L_4 s + \frac{1}{C_4 s},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_4 L_4 R_3 g_m s^2 + R_3 g_m}{C_1 C_3 C_4 L_4 R_3 s^4 + g_m + s^3 \left( C_1 C_4 L_4 + C_3 C_4 L_4 R_3 g_m \right) + s^2 \left( C_1 C_3 R_3 + 2 C_1 C_4 R_3 + C_4 L_4 g_m \right) + s \left( C_1 + C_3 R_3 g_m + 2 C_4 R_3 g_m \right)}$$

**10.183** **INVALID-ORDER-183** $Z(s) = \left( \frac{1}{C_1 s},\ \infty,\ \frac{R_3}{C_3 R_3 s + 1},\ \frac{L_4 s}{C_4 L_4 s^2 + 1},\ \infty,\ \infty \right)$

$$H(s) = \frac{L_4 R_3 g_m s}{2 R_3 g_m + s^3 \left( C_1 C_3 L_4 R_3 + 2 C_1 C_4 L_4 R_3 \right) + s^2 \left( C_1 L_4 + C_3 L_4 R_3 g_m + 2 C_4 L_4 R_3 g_m \right) + s \left( 2 C_1 R_3 + L_4 g_m \right)}$$

**10.184** **INVALID-ORDER-184** $Z(s) = \left( \frac{1}{C_1 s},\ \infty,\ \frac{R_3}{C_3 R_3 s + 1},\ L_4 s + R_4 + \frac{1}{C_4 s},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_4 L_4 R_3 g_m s^2 + C_4 R_3 R_4 g_m s + R_3 g_m}{C_1 C_3 C_4 L_4 R_3 s^4 + g_m + s^3 \left( C_1 C_3 C_4 R_3 R_4 + C_1 C_4 L_4 + C_3 C_4 L_4 R_3 g_m \right) + s^2 \left( C_1 C_3 R_3 + 2 C_1 C_4 R_3 + C_1 C_4 R_4 + C_3 C_4 R_3 R_4 g_m + C_4 L_4 g_m \right) + s \left( C_1 + C_3 R_3 g_m + 2 C_4 R_3 g_m + C_4 R_4 g_m \right)}$$

**10.185** **INVALID-ORDER-185** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{R_3}{C_3 R_3 s+1}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_4 R_3 R_4 g_m s}{2 R_3 R_4 g_m + s^3 \left( C_1 C_3 L_4 R_3 R_4 + 2 C_1 C_4 L_4 R_3 R_4 \right) + s^2 \left( 2 C_1 L_4 R_3 + C_1 L_4 R_4 + C_3 L_4 R_3 R_4 g_m + 2 C_4 L_4 R_3 R_4 g_m \right) + s \left( 2 C_1 R_3 R_4 + 2 L_4 R_3 g_m + L_4 R_4 g_m \right)}$$

**10.186** **INVALID-ORDER-186** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{R_3}{C_3 R_3 s+1}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_4 R_3 R_4 g_m s^2 + L_4 R_3 g_m s + R_3 R_4 g_m}{C_1 C_3 C_4 L_4 R_3 R_4 s^4 + 2 R_3 g_m + R_4 g_m + s^3 \left( C_1 C_3 L_4 R_3 + 2 C_1 C_4 L_4 R_3 + C_1 C_4 L_4 R_4 + C_3 C_4 L_4 R_3 R_4 g_m \right) + s^2 \left( C_1 C_3 R_3 R_4 + C_1 L_4 + C_3 L_4 R_3 g_m + 2 C_4 L_4 R_3 g_m + C_4 L_4 R_4 g_m \right) + s \left( 2 C_1 R_3 + C_1 R_4 + C_3 R_3 R_4 g_m + L_4 g_m \right)}$$

**10.187** **INVALID-ORDER-187** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{R_3}{C_3 R_3 s+1}, \ \frac{R_4 \left( C_4 L_4 s^2+1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_4 R_3 R_4 g_m s^2 + R_3 R_4 g_m}{C_1 C_3 C_4 L_4 R_3 R_4 s^4 + 2 R_3 g_m + R_4 g_m + s^3 \left( 2 C_1 C_4 L_4 R_3 + C_1 C_4 L_4 R_4 + C_3 C_4 L_4 R_3 R_4 g_m \right) + s^2 \left( C_1 C_3 R_3 R_4 + 2 C_1 C_4 R_3 R_4 + 2 C_4 L_4 R_3 g_m + C_4 L_4 R_4 g_m \right) + s \left( 2 C_1 R_3 + C_1 R_4 + C_3 R_3 R_4 g_m + 2 C_4 R_3 R_4 g_m \right)}$$

**10.188** **INVALID-ORDER-188** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 R_3 g_m s + g_m}{2 C_1 C_3 C_4 R_3 s^3 + s^2 \left( C_1 C_3 + 2 C_1 C_4 + 2 C_3 C_4 R_3 g_m \right) + s \left( C_3 g_m + 2 C_4 g_m \right)}$$

**10.189** **INVALID-ORDER-189** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s+1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 R_3 R_4 g_m s + R_4 g_m}{2 C_1 C_3 C_4 R_3 R_4 s^3 + 2 g_m + s^2 \left( 2 C_1 C_3 R_3 + C_1 C_3 R_4 + 2 C_1 C_4 R_4 + 2 C_3 C_4 R_3 R_4 g_m \right) + s \left( 2 C_1 + 2 C_3 R_3 g_m + C_3 R_4 g_m + 2 C_4 R_4 g_m \right)}$$

**10.190** **INVALID-ORDER-190** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 R_3 R_4 g_m s^2 + g_m + s \left( C_3 R_3 g_m + C_4 R_4 g_m \right)}{s^3 \left( 2 C_1 C_3 C_4 R_3 + C_1 C_3 C_4 R_4 \right) + s^2 \left( C_1 C_3 + 2 C_1 C_4 + 2 C_3 C_4 R_3 g_m + C_3 C_4 R_4 g_m \right) + s \left( C_3 g_m + 2 C_4 g_m \right)}$$

**10.191** **INVALID-ORDER-191** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_4 R_3 g_m s^3 + C_3 R_3 g_m s + C_4 L_4 g_m s^2 + g_m}{C_1 C_3 C_4 L_4 s^4 + s^3 \left( 2 C_1 C_3 C_4 R_3 + C_3 C_4 L_4 g_m \right) + s^2 \left( C_1 C_3 + 2 C_1 C_4 + 2 C_3 C_4 R_3 g_m \right) + s \left( C_3 g_m + 2 C_4 g_m \right)}$$

**10.192** **INVALID-ORDER-192** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2+1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_4 R_3 g_m s^2 + L_4 g_m s}{2 C_1 C_3 C_4 L_4 R_3 s^4 + 2 g_m + s^3 \left( C_1 C_3 L_4 + 2 C_1 C_4 L_4 + 2 C_3 C_4 L_4 R_3 g_m \right) + s^2 \left( 2 C_1 C_3 R_3 + C_3 L_4 g_m + 2 C_4 L_4 g_m \right) + s \left( 2 C_1 + 2 C_3 R_3 g_m \right)}$$

**10.193** **INVALID-ORDER-193** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_4 R_3 g_m s^3 + g_m + s^2 \left( C_3 C_4 R_3 R_4 g_m + C_4 L_4 g_m \right) + s \left( C_3 R_3 g_m + C_4 R_4 g_m \right)}{C_1 C_3 C_4 L_4 s^4 + s^3 \left( 2 C_1 C_3 C_4 R_3 + C_1 C_3 C_4 R_4 + C_3 C_4 L_4 g_m \right) + s^2 \left( C_1 C_3 + 2 C_1 C_4 + 2 C_3 C_4 R_3 g_m + C_3 C_4 R_4 g_m \right) + s \left( C_3 g_m + 2 C_4 g_m \right)}$$

**10.194** **INVALID-ORDER-194** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_4 R_3 R_4 g_m s^2 + L_4 R_4 g_m s}{2 C_1 C_3 C_4 L_4 R_3 R_4 s^4 + 2 R_4 g_m + s^3 \left( 2 C_1 C_3 L_4 R_3 + C_1 C_3 L_4 R_4 + 2 C_1 C_4 L_4 R_4 + 2 C_3 C_4 L_4 R_3 R_4 g_m \right) + s^2 \left( 2 C_1 C_3 R_3 R_4 + 2 C_1 L_4 + 2 C_3 L_4 R_3 g_m + C_3 L_4 R_4 g_m + 2 C_4 L_4 R_4 g_m \right) + s \left( 2 C_1 R_4 + 2 C_3 R_3 R_4 g_m + 2 L_4 g_m \right)}$$

**10.195 INVALID-ORDER-195** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_4 R_3 R_4 g_m s^3 + R_4 g_m + s^2 \left( C_3 L_4 R_3 g_m + C_4 L_4 R_4 g_m \right) + s \left( C_3 R_3 R_4 g_m + L_4 g_m \right)}{2 g_m + s^4 \left( 2 C_1 C_3 C_4 L_4 R_3 + C_1 C_3 C_4 L_4 R_4 \right) + s^3 \left( C_1 C_3 L_4 + 2 C_1 C_4 L_4 + 2 C_3 C_4 L_4 R_3 g_m + C_3 C_4 L_4 R_4 g_m \right) + s^2 \left( 2 C_1 C_3 R_3 + C_1 C_3 R_4 + C_3 L_4 g_m + 2 C_4 L_4 g_m \right) + s \left( 2 C_1 + 2 C_3 R_3 g_m + C_3 R_4 g_m \right)}$$

**10.196 INVALID-ORDER-196** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{R_4 \left( C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_4 R_3 R_4 g_m s^3 + C_3 R_3 R_4 g_m s + C_4 L_4 R_4 g_m s^2 + R_4 g_m}{2 g_m + s^4 \left( 2 C_1 C_3 C_4 L_4 R_3 + C_1 C_3 C_4 L_4 R_4 \right) + s^3 \left( 2 C_1 C_3 C_4 R_3 R_4 + 2 C_1 C_4 L_4 + 2 C_3 C_4 L_4 R_3 g_m + C_3 C_4 L_4 R_4 g_m \right) + s^2 \left( 2 C_1 C_3 R_3 + C_1 C_3 R_4 + 2 C_1 C_4 R_4 + 2 C_3 C_4 R_3 R_4 g_m + 2 C_4 L_4 g_m \right) + s \left( 2 C_1 + 2 C_3 R_3 g_m + C_3 R_4 g_m + 2 C_4 R_4 g_m \right)}$$

**10.197 INVALID-ORDER-197** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_3 R_4 g_m s^2 + R_4 g_m}{2 C_1 C_3 L_3 s^3 + 2 g_m + s^2 \left( C_1 C_3 R_4 + 2 C_3 L_3 g_m \right) + s \left( 2 C_1 + C_3 R_4 g_m \right)}$$

**10.198 INVALID-ORDER-198** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_3 g_m s^2 + g_m}{2 C_1 C_3 C_4 L_3 s^4 + 2 C_3 C_4 L_3 g_m s^3 + s^2 \left( C_1 C_3 + 2 C_1 C_4 \right) + s \left( C_3 g_m + 2 C_4 g_m \right)}$$

**10.199 INVALID-ORDER-199** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_3 R_4 g_m s^2 + R_4 g_m}{2 C_1 C_3 C_4 L_3 R_4 s^4 + 2 g_m + s^3 \left( 2 C_1 C_3 L_3 + 2 C_3 C_4 L_3 R_4 g_m \right) + s^2 \left( C_1 C_3 R_4 + 2 C_1 C_4 R_4 + 2 C_3 L_3 g_m \right) + s \left( 2 C_1 + C_3 R_4 g_m + 2 C_4 R_4 g_m \right)}$$

**10.200 INVALID-ORDER-200** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_3 R_4 g_m s^3 + C_3 L_3 g_m s^2 + C_4 R_4 g_m s + g_m}{2 C_1 C_3 C_4 L_3 s^4 + s^3 \left( C_1 C_3 C_4 R_4 + 2 C_3 C_4 L_3 g_m \right) + s^2 \left( C_1 C_3 + 2 C_1 C_4 + C_3 C_4 R_4 g_m \right) + s \left( C_3 g_m + 2 C_4 g_m \right)}$$

**10.201 INVALID-ORDER-201** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_3 L_4 g_m s^4 + g_m + s^2 \left( C_3 L_3 g_m + C_4 L_4 g_m \right)}{s^4 \left( 2 C_1 C_3 C_4 L_3 + C_1 C_3 C_4 L_4 \right) + s^3 \left( 2 C_3 C_4 L_3 g_m + C_3 C_4 L_4 g_m \right) + s^2 \left( C_1 C_3 + 2 C_1 C_4 \right) + s \left( C_3 g_m + 2 C_4 g_m \right)}$$

**10.202 INVALID-ORDER-202** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_3 L_4 g_m s^3 + L_4 g_m s}{2 C_1 C_3 C_4 L_3 L_4 s^5 + 2 C_1 s + 2 C_3 C_4 L_3 L_4 g_m s^4 + 2 g_m + s^3 \left( 2 C_1 C_3 L_3 + C_1 C_3 L_4 + 2 C_1 C_4 L_4 \right) + s^2 \left( 2 C_3 L_3 g_m + C_3 L_4 g_m + 2 C_4 L_4 g_m \right)}$$

**10.203 INVALID-ORDER-203** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_3 L_4 g_m s^4 + C_3 C_4 L_3 R_4 g_m s^3 + C_4 R_4 g_m s + g_m + s^2 \left( C_3 L_3 g_m + C_4 L_4 g_m \right)}{s^4 \left( 2 C_1 C_3 C_4 L_3 + C_1 C_3 C_4 L_4 \right) + s^3 \left( C_1 C_3 C_4 R_4 + 2 C_3 C_4 L_3 g_m + C_3 C_4 L_4 g_m \right) + s^2 \left( C_1 C_3 + 2 C_1 C_4 + C_3 C_4 R_4 g_m \right) + s \left( C_3 g_m + 2 C_4 g_m \right)}$$

**10.204  INVALID-ORDER-204** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_3 L_4 R_4 g_m s^3 + L_4 R_4 g_m s}{2C_1 C_3 C_4 L_3 L_4 R_4 s^5 + 2R_4 g_m + s^4 \left( 2C_1 C_3 L_3 L_4 + 2C_3 C_4 L_3 L_4 R_4 g_m \right) + s^3 \left( 2C_1 C_3 L_3 R_4 + C_1 C_3 L_4 R_4 + 2C_1 C_4 L_4 R_4 + 2C_3 L_3 L_4 g_m \right) + s^2 \left( 2C_1 L_4 + 2C_3 L_3 R_4 g_m + C_3 L_4 R_4 g_m + 2C_4 L_4 R_4 g_m \right) + s \left( 2C_1 R_4 + 2L_4 g_m \right)}$$

**10.205  INVALID-ORDER-205** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_3 L_4 R_4 g_m s^4 + C_3 L_3 L_4 g_m s^3 + L_4 g_m s + R_4 g_m + s^2 \left( C_3 L_3 R_4 g_m + C_4 L_4 R_4 g_m \right)}{2C_1 C_3 C_4 L_3 L_4 s^5 + 2g_m + s^4 \left( C_1 C_3 C_4 L_4 R_4 + 2C_3 C_4 L_3 L_4 g_m \right) + s^3 \left( 2C_1 C_3 L_3 + C_1 C_3 L_4 + 2C_1 C_4 L_4 + C_3 C_4 L_4 R_4 g_m \right) + s^2 \left( C_1 C_3 R_4 + 2C_3 L_3 g_m + C_3 L_4 g_m + 2C_4 L_4 g_m \right) + s \left( 2C_1 + C_3 R_4 g_m \right)}$$

**10.206  INVALID-ORDER-206** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{R_4 \left( C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_3 L_4 R_4 g_m s^4 + R_4 g_m + s^2 \left( C_3 L_3 R_4 g_m + C_4 L_4 R_4 g_m \right)}{2C_1 C_3 C_4 L_3 L_4 s^5 + 2g_m + s^4 \left( 2C_1 C_3 C_4 L_3 R_4 + C_1 C_3 C_4 L_4 R_4 + 2C_3 C_4 L_3 L_4 g_m \right) + s^3 \left( 2C_1 C_3 L_3 + 2C_1 C_4 L_4 + 2C_3 C_4 L_3 R_4 g_m + C_3 C_4 L_4 R_4 g_m \right) + s^2 \left( C_1 C_3 R_4 + 2C_1 C_4 R_4 + 2C_3 L_3 g_m + 2C_4 L_4 g_m \right) + s \left( 2C_1 + C_3 R_4 g_m + 2C_4 R_4 g_m \right)}$$

**10.207  INVALID-ORDER-207** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_3 R_4 g_m s}{C_1 C_3 L_3 R_4 s^3 + R_4 g_m + s^2 \left( 2C_1 L_3 + C_3 L_3 R_4 g_m \right) + s \left( C_1 R_4 + 2L_3 g_m \right)}$$

**10.208  INVALID-ORDER-208** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_3 g_m s}{C_1 s + g_m + s^3 \left( C_1 C_3 L_3 + 2C_1 C_4 L_3 \right) + s^2 \left( C_3 L_3 g_m + 2C_4 L_3 g_m \right)}$$

**10.209  INVALID-ORDER-209** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_3 R_4 g_m s}{R_4 g_m + s^3 \left( C_1 C_3 L_3 R_4 + 2C_1 C_4 L_3 R_4 \right) + s^2 \left( 2C_1 L_3 + C_3 L_3 R_4 g_m + 2C_4 L_3 R_4 g_m \right) + s \left( C_1 R_4 + 2L_3 g_m \right)}$$

**10.210  INVALID-ORDER-210** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_3 R_4 g_m s^2 + L_3 g_m s}{C_1 C_3 C_4 L_3 R_4 s^4 + g_m + s^3 \left( C_1 C_3 L_3 + 2C_1 C_4 L_3 + C_3 C_4 L_3 R_4 g_m \right) + s^2 \left( C_1 C_4 R_4 + C_3 L_3 g_m + 2C_4 L_3 g_m \right) + s \left( C_1 + C_4 R_4 g_m \right)}$$

**10.211  INVALID-ORDER-211** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_3 L_4 g_m s^3 + L_3 g_m s}{C_1 C_3 C_4 L_3 L_4 s^5 + C_1 s + C_3 C_4 L_3 L_4 g_m s^4 + g_m + s^3 \left( C_1 C_3 L_3 + 2C_1 C_4 L_3 + C_1 C_4 L_4 \right) + s^2 \left( C_3 L_3 g_m + 2C_4 L_3 g_m + C_4 L_4 g_m \right)}$$

**10.212  INVALID-ORDER-212** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_3 L_4 g_m s}{2L_3 g_m + L_4 g_m + s^3 \left( C_1 C_3 L_3 L_4 + 2C_1 C_4 L_3 L_4 \right) + s^2 \left( C_3 L_3 L_4 g_m + 2C_4 L_3 L_4 g_m \right) + s \left( 2C_1 L_3 + C_1 L_4 \right)}$$

**10.213  INVALID-ORDER-213** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_3 L_4 g_m s^3 + C_4 L_3 R_4 g_m s^2 + L_3 g_m s}{C_1 C_3 C_4 L_3 L_4 s^5 + g_m + s^4 \left( C_1 C_3 C_4 L_3 R_4 + C_3 C_4 L_3 L_4 g_m \right) + s^3 \left( C_1 C_3 L_3 + 2C_1 C_4 L_3 + C_1 C_4 L_4 + C_3 C_4 L_3 R_4 g_m \right) + s^2 \left( C_1 C_4 R_4 + C_3 L_3 g_m + 2C_4 L_3 g_m + C_4 L_4 g_m \right) + s \left( C_1 + C_4 R_4 g_m \right)}$$

**10.214** **INVALID-ORDER-214** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_3 L_4 R_4 g_m s}{2L_3 R_4 g_m + L_4 R_4 g_m + s^3 \left( C_1 C_3 L_3 L_4 R_4 + 2C_1 C_4 L_3 L_4 R_4 \right) + s^2 \left( 2C_1 L_3 L_4 + C_3 L_3 L_4 R_4 g_m + 2C_4 L_3 L_4 R_4 g_m \right) + s \left( 2C_1 L_3 R_4 + C_1 L_4 R_4 + 2L_3 L_4 g_m \right)}$$

**10.215** **INVALID-ORDER-215** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_3 L_4 R_4 g_m s^3 + L_3 L_4 g_m s^2 + L_3 R_4 g_m s}{C_1 C_3 C_4 L_3 L_4 R_4 s^5 + R_4 g_m + s^4 \left( C_1 C_3 L_3 L_4 + 2C_1 C_4 L_3 L_4 + C_3 C_4 L_3 L_4 R_4 g_m \right) + s^3 \left( C_1 C_3 L_3 R_4 + C_1 C_4 L_4 R_4 + C_3 L_3 L_4 g_m + 2C_4 L_3 L_4 g_m \right) + s^2 \left( 2C_1 L_3 + C_1 L_4 + C_3 L_3 R_4 g_m + C_4 L_4 R_4 g_m \right) + s \left( C_1 R_4 + 2L_3 g_m + L_4 g_m \right)}$$

**10.216** **INVALID-ORDER-216** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{R_4 \left( C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_3 L_4 R_4 g_m s^3 + L_3 R_4 g_m s}{C_1 C_3 C_4 L_3 L_4 R_4 s^5 + R_4 g_m + s^4 \left( 2C_1 C_4 L_3 L_4 + C_3 C_4 L_3 L_4 R_4 g_m \right) + s^3 \left( C_1 C_3 L_3 R_4 + 2C_1 C_4 L_3 R_4 + C_1 C_4 L_4 R_4 + 2C_4 L_3 L_4 g_m \right) + s^2 \left( 2C_1 L_3 + C_3 L_3 R_4 g_m + 2C_4 L_3 R_4 g_m + C_4 L_4 R_4 g_m \right) + s \left( C_1 R_4 + 2L_3 g_m \right)}$$

**10.217** **INVALID-ORDER-217** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_3 R_4 g_m s^2 + C_3 R_3 R_4 g_m s + R_4 g_m}{2C_1 C_3 L_3 s^3 + 2g_m + s^2 \left( 2C_1 C_3 R_3 + C_1 C_3 R_4 + 2C_3 L_3 g_m \right) + s \left( 2C_1 + 2C_3 R_3 g_m + C_3 R_4 g_m \right)}$$

**10.218** **INVALID-ORDER-218** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_3 g_m s^2 + C_3 R_3 g_m s + g_m}{2C_1 C_3 C_4 L_3 s^4 + s^3 \left( 2C_1 C_3 C_4 R_3 + 2C_3 C_4 L_3 g_m \right) + s^2 \left( C_1 C_3 + 2C_1 C_4 + 2C_3 C_4 R_3 g_m \right) + s \left( C_3 g_m + 2C_4 g_m \right)}$$

**10.219** **INVALID-ORDER-219** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_3 R_4 g_m s^2 + C_3 R_3 R_4 g_m s + R_4 g_m}{2C_1 C_3 C_4 L_3 R_4 s^4 + 2g_m + s^3 \left( 2C_1 C_3 C_4 R_3 R_4 + 2C_1 C_3 L_3 + 2C_3 C_4 L_3 R_4 g_m \right) + s^2 \left( 2C_1 C_3 R_3 + C_1 C_3 R_4 + 2C_1 C_4 R_4 + 2C_3 C_4 R_3 R_4 g_m + 2C_3 L_3 g_m \right) + s \left( 2C_1 + 2C_3 R_3 g_m + C_3 R_4 g_m + 2C_4 R_4 g_m \right)}$$

**10.220** **INVALID-ORDER-220** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_3 R_4 g_m s^3 + g_m + s^2 \left( C_3 C_4 R_3 R_4 g_m + C_3 L_3 g_m \right) + s \left( C_3 R_3 g_m + C_4 R_4 g_m \right)}{2C_1 C_3 C_4 L_3 s^4 + s^3 \left( 2C_1 C_3 C_4 R_3 + C_1 C_3 C_4 R_4 + 2C_3 C_4 L_3 g_m \right) + s^2 \left( C_1 C_3 + 2C_1 C_4 + 2C_3 C_4 R_3 g_m + C_3 C_4 R_4 g_m \right) + s \left( C_3 g_m + 2C_4 g_m \right)}$$

**10.221** **INVALID-ORDER-221** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_3 L_4 g_m s^4 + C_3 C_4 L_4 R_3 g_m s^3 + C_3 R_3 g_m s + g_m + s^2 \left( C_3 L_3 g_m + C_4 L_4 g_m \right)}{s^4 \left( 2C_1 C_3 C_4 L_3 + C_1 C_3 C_4 L_4 \right) + s^3 \left( 2C_1 C_3 C_4 R_3 + 2C_3 C_4 L_3 g_m + C_3 C_4 L_4 g_m \right) + s^2 \left( C_1 C_3 + 2C_1 C_4 + 2C_3 C_4 R_3 g_m \right) + s \left( C_3 g_m + 2C_4 g_m \right)}$$

**10.222** **INVALID-ORDER-222** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_3 L_4 g_m s^3 + C_3 L_4 R_3 g_m s^2 + L_4 g_m s}{2C_1 C_3 C_4 L_3 L_4 s^5 + 2g_m + s^4 \left( 2C_1 C_3 C_4 L_4 R_3 + 2C_3 C_4 L_3 L_4 g_m \right) + s^3 \left( 2C_1 C_3 L_3 + C_1 C_3 L_4 + 2C_1 C_4 L_4 + 2C_3 C_4 L_4 R_3 g_m \right) + s^2 \left( 2C_1 C_3 R_3 + 2C_3 L_3 g_m + C_3 L_4 g_m + 2C_4 L_4 g_m \right) + s \left( 2C_1 + 2C_3 R_3 g_m \right)}$$

**10.223** **INVALID-ORDER-223** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_3 L_4 g_m s^4 + g_m + s^3 \left( C_3 C_4 L_3 R_4 g_m + C_3 C_4 L_4 R_3 g_m \right) + s^2 \left( C_3 C_4 R_3 R_4 g_m + C_3 L_3 g_m + C_4 L_4 g_m \right) + s \left( C_3 R_3 g_m + C_4 R_4 g_m \right)}{s^4 \left( 2C_1 C_3 C_4 L_3 + C_1 C_3 C_4 L_4 \right) + s^3 \left( 2C_1 C_3 C_4 R_3 + C_1 C_3 C_4 R_4 + 2C_3 C_4 L_3 g_m + C_3 C_4 L_4 g_m \right) + s^2 \left( C_1 C_3 + 2C_1 C_4 + 2C_3 C_4 R_3 g_m + C_3 C_4 R_4 g_m \right) + s \left( C_3 g_m + 2C_4 g_m \right)}$$

**10.224** **INVALID-ORDER-224** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_3 L_4 R_4 g_m s^3 + C_3 L_4 R_3 R_4 g_m s^2 + L_4 R_4 g_m s}{2C_1 C_3 C_4 L_3 L_4 R_4 s^5 + 2R_4 g_m + s^4 \left( 2C_1 C_3 C_4 L_4 R_3 R_4 + 2C_1 C_3 L_3 L_4 + 2C_3 C_4 L_3 L_4 R_4 g_m \right) + s^3 \left( 2C_1 C_3 L_3 R_4 + 2C_1 C_3 L_4 R_3 + C_1 C_3 L_4 R_4 + 2C_1 C_4 L_4 R_4 + 2C_3 C_4 L_4 R_3 R_4 g_m + 2C_3 L_3 L_4 g_m \right) + s^2 \left( 2C_1 C_3 R_3 R_4 + 2C_1 L_4 + 2C_3 L_3 R_4 g_m + 2C_3 L_4 R_3 g_m + C_3 L_4 R_4 g_m + \right.}$$

**10.225** **INVALID-ORDER-225** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_3 L_4 R_4 g_m s^4 + R_4 g_m + s^3 \left( C_3 C_4 L_4 R_3 R_4 g_m + C_3 L_3 L_4 g_m \right) + s^2 \left( C_3 L_3 R_4 g_m + C_3 L_4 R_3 g_m + C_4 L_4 R_4 g_m \right) + s \left( C_3 R_3 R_4 g_m + L_4 g_m \right)}{2C_1 C_3 C_4 L_3 L_4 s^5 + 2g_m + s^4 \left( 2C_1 C_3 C_4 L_4 R_3 + C_1 C_3 C_4 L_4 R_4 + 2C_3 C_4 L_3 L_4 g_m \right) + s^3 \left( 2C_1 C_3 L_3 + C_1 C_3 L_4 + 2C_1 C_4 L_4 + 2C_3 C_4 L_4 R_3 g_m + C_3 C_4 L_4 R_4 g_m \right) + s^2 \left( 2C_1 C_3 R_3 + C_1 C_3 R_4 + 2C_3 L_3 g_m + C_3 L_4 g_m + 2C_4 L_4 g_m \right) + s \left( 2C_1 + 2C_3 R_3 g_m + C_3 R_4 g_m \right)}$$

**10.226** **INVALID-ORDER-226** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{R_4 \left( C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_3 L_4 R_4 g_m s^4 + C_3 C_4 L_4 R_3 R_4 g_m s^3 + C_3 R_3 R_4 g_m s + R_4 g_m + s^2 \left( C_3 L_3 R_4 g_m + C_4 L_4 R_4 g_m \right)}{2C_1 C_3 C_4 L_3 L_4 s^5 + 2g_m + s^4 \left( 2C_1 C_3 C_4 L_3 R_4 + 2C_1 C_3 C_4 L_4 R_3 + C_1 C_3 C_4 L_4 R_4 + 2C_3 C_4 L_3 L_4 g_m \right) + s^3 \left( 2C_1 C_3 C_4 R_3 R_4 + 2C_1 C_3 L_3 + 2C_1 C_4 L_4 + 2C_3 C_4 L_3 R_4 g_m + 2C_3 C_4 L_4 R_3 g_m + C_3 C_4 L_4 R_4 g_m \right) + s^2 \left( 2C_1 C_3 R_3 + C_1 C_3 R_4 + 2C_1 C_4 R_4 + 2C_3 C_4 R_3 R_4 g_m + 2C_3 L_3 \right.}$$

**10.227** **INVALID-ORDER-227** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_3 R_3 R_4 g_m s}{C_1 C_3 L_3 R_3 R_4 s^3 + R_3 R_4 g_m + s^2 \left( 2C_1 L_3 R_3 + C_1 L_3 R_4 + C_3 L_3 R_3 R_4 g_m \right) + s \left( C_1 R_3 R_4 + 2L_3 R_3 g_m + L_3 R_4 g_m \right)}$$

**10.228** **INVALID-ORDER-228** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_3 R_3 g_m s}{R_3 g_m + s^3 \left( C_1 C_3 L_3 R_3 + 2C_1 C_4 L_3 R_3 \right) + s^2 \left( C_1 L_3 + C_3 L_3 R_3 g_m + 2C_4 L_3 R_3 g_m \right) + s \left( C_1 R_3 + L_3 g_m \right)}$$

**10.229** **INVALID-ORDER-229** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_3 R_3 R_4 g_m s}{R_3 R_4 g_m + s^3 \left( C_1 C_3 L_3 R_3 R_4 + 2C_1 C_4 L_3 R_3 R_4 \right) + s^2 \left( 2C_1 L_3 R_3 + C_1 L_3 R_4 + C_3 L_3 R_3 R_4 g_m + 2C_4 L_3 R_3 R_4 g_m \right) + s \left( C_1 R_3 R_4 + 2L_3 R_3 g_m + L_3 R_4 g_m \right)}$$

**10.230** **INVALID-ORDER-230** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_3 R_3 R_4 g_m s^2 + L_3 R_3 g_m s}{C_1 C_3 C_4 L_3 R_3 R_4 s^4 + R_3 g_m + s^3 \left( C_1 C_3 L_3 R_3 + 2C_1 C_4 L_3 R_3 + C_1 C_4 L_3 R_4 + C_3 C_4 L_3 R_3 R_4 g_m \right) + s^2 \left( C_1 C_4 R_3 R_4 + C_1 L_3 + C_3 L_3 R_3 g_m + 2C_4 L_3 R_3 g_m + C_4 L_3 R_4 g_m \right) + s \left( C_1 R_3 + C_4 R_3 R_4 g_m + L_3 g_m \right)}$$

**10.231** **INVALID-ORDER-231** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_3 L_4 R_3 g_m s^3 + L_3 R_3 g_m s}{C_1 C_3 C_4 L_3 L_4 R_3 s^5 + R_3 g_m + s^4 \left( C_1 C_4 L_3 L_4 + C_3 C_4 L_3 L_4 R_3 g_m \right) + s^3 \left( C_1 C_3 L_3 R_3 + 2C_1 C_4 L_3 R_3 + C_1 C_4 L_4 R_3 + C_4 L_3 L_4 g_m \right) + s^2 \left( C_1 L_3 + C_3 L_3 R_3 g_m + 2C_4 L_3 R_3 g_m + C_4 L_4 R_3 g_m \right) + s \left( C_1 R_3 + L_3 g_m \right)}$$

**10.232** **INVALID-ORDER-232** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_3 L_4 R_3 g_m s}{2L_3 R_3 g_m + L_4 R_3 g_m + s^3 \left( C_1 C_3 L_3 L_4 R_3 + 2C_1 C_4 L_3 L_4 R_3 \right) + s^2 \left( C_1 L_3 L_4 + C_3 L_3 L_4 R_3 g_m + 2C_4 L_3 L_4 R_3 g_m \right) + s \left( 2C_1 L_3 R_3 + C_1 L_4 R_3 + L_3 L_4 g_m \right)}$$

**10.233** **INVALID-ORDER-233** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_3 L_4 R_3 g_m s^3 + C_4 L_3 R_3 R_4 g_m s^2 + L_3 R_3 g_m s}{C_1 C_3 C_4 L_3 L_4 R_3 s^5 + R_3 g_m + s^4 \left( C_1 C_3 C_4 L_3 R_3 R_4 + C_1 C_4 L_3 L_4 + C_3 C_4 L_3 L_4 R_3 g_m \right) + s^3 \left( C_1 C_3 L_3 R_3 + 2C_1 C_4 L_3 R_3 + C_1 C_4 L_3 R_4 + C_1 C_4 L_4 R_3 + C_3 C_4 L_3 R_3 R_4 g_m + C_4 L_3 L_4 g_m \right) + s^2 \left( C_1 C_4 R_3 R_4 + C_1 L_3 + C_3 L_3 R_3 g_m + 2C_4 L_3 R_3 g_m + C_4 L_3 R_4 g_m + C_4 L_4 R_3 g_m + \right.}$$

**10.234 INVALID-ORDER-234** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_3 L_4 R_3 R_4 g_m s}{2 L_3 R_3 R_4 g_m + L_4 R_3 R_4 g_m + s^3 \left( C_1 C_3 L_3 L_4 R_3 R_4 + 2 C_1 C_4 L_3 L_4 R_3 R_4 \right) + s^2 \left( 2 C_1 L_3 L_4 R_3 + C_1 L_3 L_4 R_4 + C_3 L_3 L_4 R_3 R_4 g_m + 2 C_4 L_3 L_4 R_3 R_4 g_m \right) + s \left( 2 C_1 L_3 R_3 R_4 + C_1 L_4 R_3 R_4 + 2 L_3 L_4 R_3 g_m + L_3 L_4 R_4 g_m \right)}$$

**10.235 INVALID-ORDER-235** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_3 L_4 R_3 R_4 g_m s^3 + L_3 L_4 R_3 g_m s^2 + L_3 R_3 R_4 g_m s}{C_1 C_3 C_4 L_3 L_4 R_3 R_4 s^5 + R_3 R_4 g_m + s^4 \left( C_1 C_3 L_3 L_4 R_3 + 2 C_1 C_4 L_3 L_4 R_3 + C_1 C_4 L_3 L_4 R_4 + C_3 C_4 L_3 L_4 R_3 R_4 g_m \right) + s^3 \left( C_1 C_3 L_3 R_3 R_4 + C_1 C_4 L_4 R_3 R_4 + C_1 L_3 L_4 + C_3 L_3 L_4 R_3 g_m + 2 C_4 L_3 L_4 R_3 g_m + C_4 L_3 L_4 R_4 g_m \right) + s^2 \left( 2 C_1 L_3 R_3 + C_1 L_3 R_4 + C_1 L_4 R_3 + C_3 L_3 R_3 R_4 g_m \right.}$$

**10.236 INVALID-ORDER-236** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{R_4 \left( C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_3 L_4 R_3 R_4 g_m s^3 + L_3 R_3 R_4 g_m s}{C_1 C_3 C_4 L_3 L_4 R_3 R_4 s^5 + R_3 R_4 g_m + s^4 \left( 2 C_1 C_4 L_3 L_4 R_3 + C_1 C_4 L_3 L_4 R_4 + C_3 C_4 L_3 L_4 R_3 R_4 g_m \right) + s^3 \left( C_1 C_3 L_3 R_3 R_4 + 2 C_1 C_4 L_3 R_3 R_4 + C_1 C_4 L_4 R_3 R_4 + 2 C_4 L_3 L_4 R_3 g_m + C_4 L_3 L_4 R_4 g_m \right) + s^2 \left( 2 C_1 L_3 R_3 + C_1 L_3 R_4 + C_3 L_3 R_3 R_4 g_m + 2 C_4 L_3 R_3 R_4 g_m + C_4 L_4 R_3 R_4 g_m \right)}$$

**10.237 INVALID-ORDER-237** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_3 R_3 R_4 g_m s^2 + L_3 R_4 g_m s + R_3 R_4 g_m}{2 R_3 g_m + R_4 g_m + s^3 \left( 2 C_1 C_3 L_3 R_3 + C_1 C_3 L_3 R_4 \right) + s^2 \left( 2 C_1 L_3 + 2 C_3 L_3 R_3 g_m + C_3 L_3 R_4 g_m \right) + s \left( 2 C_1 R_3 + C_1 R_4 + 2 L_3 g_m \right)}$$

**10.238 INVALID-ORDER-238** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_3 R_3 g_m s^2 + L_3 g_m s + R_3 g_m}{2 C_1 C_3 C_4 L_3 R_3 s^4 + g_m + s^3 \left( C_1 C_3 L_3 + 2 C_1 C_4 L_3 + 2 C_3 C_4 L_3 R_3 g_m \right) + s^2 \left( 2 C_1 C_4 R_3 + C_3 L_3 g_m + 2 C_4 L_3 g_m \right) + s \left( C_1 + 2 C_4 R_3 g_m \right)}$$

**10.239 INVALID-ORDER-239** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_3 R_3 R_4 g_m s^2 + L_3 R_4 g_m s + R_3 R_4 g_m}{2 C_1 C_3 C_4 L_3 R_3 R_4 s^4 + 2 R_3 g_m + R_4 g_m + s^3 \left( 2 C_1 C_3 L_3 R_3 + C_1 C_3 L_3 R_4 + 2 C_1 C_4 L_3 R_4 + 2 C_3 C_4 L_3 R_3 R_4 g_m \right) + s^2 \left( 2 C_1 C_4 R_3 R_4 + 2 C_1 L_3 + 2 C_3 L_3 R_3 g_m + C_3 L_3 R_4 g_m + 2 C_4 L_3 R_4 g_m \right) + s \left( 2 C_1 R_3 + C_1 R_4 + 2 C_4 R_3 R_4 g_m + 2 L_3 g_m \right)}$$

**10.240 INVALID-ORDER-240** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_3 R_3 R_4 g_m s^3 + R_3 g_m + s^2 \left( C_3 L_3 R_3 g_m + C_4 L_3 R_4 g_m \right) + s \left( C_4 R_3 R_4 g_m + L_3 g_m \right)}{g_m + s^4 \left( 2 C_1 C_3 C_4 L_3 R_3 + C_1 C_3 C_4 L_3 R_4 \right) + s^3 \left( C_1 C_3 L_3 + 2 C_1 C_4 L_3 + 2 C_3 C_4 L_3 R_3 g_m + C_3 C_4 L_3 R_4 g_m \right) + s^2 \left( 2 C_1 C_4 R_3 + C_1 C_4 R_4 + C_3 L_3 g_m + 2 C_4 L_3 g_m \right) + s \left( C_1 + 2 C_4 R_3 g_m + C_4 R_4 g_m \right)}$$

**10.241 INVALID-ORDER-241** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_3 L_4 R_3 g_m s^4 + C_4 L_3 L_4 g_m s^3 + L_3 g_m s + R_3 g_m + s^2 \left( C_3 L_3 R_3 g_m + C_4 L_4 R_3 g_m \right)}{C_1 C_3 C_4 L_3 L_4 s^5 + g_m + s^4 \left( 2 C_1 C_3 C_4 L_3 R_3 + C_3 C_4 L_3 L_4 g_m \right) + s^3 \left( C_1 C_3 L_3 + 2 C_1 C_4 L_3 + C_1 C_4 L_4 + 2 C_3 C_4 L_3 R_3 g_m \right) + s^2 \left( 2 C_1 C_4 R_3 + C_3 L_3 g_m + 2 C_4 L_3 g_m + C_4 L_4 g_m \right) + s \left( C_1 + 2 C_4 R_3 g_m \right)}$$

**10.242 INVALID-ORDER-242** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_3 L_4 R_3 g_m s^3 + L_3 L_4 g_m s^2 + L_4 R_3 g_m s}{2 C_1 C_3 C_4 L_3 L_4 R_3 s^5 + 2 R_3 g_m + s^4 \left( C_1 C_3 L_3 L_4 + 2 C_1 C_4 L_3 L_4 + 2 C_3 C_4 L_3 L_4 R_3 g_m \right) + s^3 \left( 2 C_1 C_3 L_3 R_3 + 2 C_1 C_4 L_4 R_3 + C_3 L_3 L_4 g_m + 2 C_4 L_3 L_4 g_m \right) + s^2 \left( 2 C_1 L_3 + C_1 L_4 + 2 C_3 L_3 R_3 g_m + 2 C_4 L_4 R_3 g_m \right) + s \left( 2 C_1 R_3 + 2 L_3 g_m + L_4 g_m \right)}$$

**10.243 INVALID-ORDER-243** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_3 L_4 R_3 g_m s^4 + R_3 g_m + s^3 \left( C_3 C_4 L_3 R_3 R_4 g_m + C_4 L_3 L_4 g_m \right) + s^2 \left( C_3 L_3 R_3 g_m + C_4 L_3 R_4 g_m + C_4 L_4 R_3 g_m \right) + s \left( C_4 R_3 R_4 g_m + L_3 g_m \right)}{C_1 C_3 C_4 L_3 L_4 s^5 + g_m + s^4 \left( 2 C_1 C_3 C_4 L_3 R_3 + C_1 C_3 C_4 L_3 R_4 + C_3 C_4 L_3 L_4 g_m \right) + s^3 \left( C_1 C_3 L_3 + 2 C_1 C_4 L_3 + C_1 C_4 L_4 + 2 C_3 C_4 L_3 R_3 g_m + C_3 C_4 L_3 R_4 g_m \right) + s^2 \left( 2 C_1 C_4 R_3 + C_1 C_4 R_4 + C_3 L_3 g_m + 2 C_4 L_3 g_m + C_4 L_4 g_m \right) + s \left( C_1 + 2 C_4 R_3 g_m + C_4 R_4 g_m \right)}$$

**10.244  INVALID-ORDER-244** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_3 L_4 R_3 R_4 g_m s^3 + L_3 L_4 R_4 g_m s^2 + L_4 R_3 R_4 g_m s}{2 C_1 C_3 C_4 L_3 L_4 R_3 R_4 s^5 + 2 R_3 R_4 g_m + s^4 (2 C_1 C_3 L_3 L_4 R_3 + C_1 C_3 L_3 L_4 R_4 + 2 C_1 C_4 L_3 L_4 R_4 + 2 C_3 C_4 L_3 L_4 R_3 R_4 g_m) + s^3 (2 C_1 C_3 L_3 R_3 R_4 + 2 C_1 C_4 L_4 R_3 R_4 + 2 C_1 L_3 L_4 + 2 R_3 L_4 R_4 g_m + C_3 L_3 L_4 R_4 g_m + 2 C_4 L_3 L_4 R_4 g_m) + s^2 (2 C_1 L_3 R_4 + 2 C_1 L_4 R_3 + C_1 L_4 R_4 + 2 C}$$

**10.245  INVALID-ORDER-245** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_3 L_4 R_3 R_4 g_m s^4 + R_3 R_4 g_m + s^3 (C_3 L_3 L_4 R_3 g_m + C_4 L_3 L_4 R_4 g_m) + s^2 (C_3 L_3 R_3 R_4 g_m + C_4 L_4 R_3 R_4 g_m + L_3 L_4 g_m) + s (L_3 R_4 g_m + L_4 R_3 g_m)}{2 R_3 g_m + R_4 g_m + s^5 (2 C_1 C_3 C_4 L_3 L_4 R_3 + C_1 C_3 C_4 L_3 L_4 R_4) + s^4 (C_1 C_3 L_3 L_4 + 2 C_1 C_4 L_3 L_4 + 2 C_3 C_4 L_3 L_4 R_3 g_m + C_3 C_4 L_3 L_4 R_4 g_m) + s^3 (2 C_1 C_3 L_3 R_3 + C_1 C_3 L_3 R_4 + 2 C_1 C_4 L_4 R_3 + C_1 C_4 L_4 R_4 + C_3 L_3 L_4 g_m + 2 C_4 L_3 L_4 g_m) + s^2 (2 C_1 L_3 + C_1 L_4 + 2 C_3 L_3 R_3 g_m + C}$$

**10.246  INVALID-ORDER-246** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{R_4 (C_4 L_4 s^2 + 1)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_3 L_4 R_3 R_4 g_m s^4 + C_4 L_3 L_4 R_4 g_m s^3 + L_3 R_4 g_m s + R_3 R_4 g_m + s^2 (C_3 L_3 R_3 R_4 g_m + C_4 L_4 R_3 R_4 g_m)}{2 R_3 g_m + R_4 g_m + s^5 (2 C_1 C_3 C_4 L_3 L_4 R_3 + C_1 C_3 C_4 L_3 L_4 R_4) + s^4 (2 C_1 C_3 C_4 L_3 R_3 R_4 + 2 C_1 C_4 L_3 L_4 + 2 C_3 C_4 L_3 L_4 R_3 g_m + C_3 C_4 L_3 L_4 R_4 g_m) + s^3 (2 C_1 C_3 L_3 R_3 + C_1 C_3 L_3 R_4 + 2 C_1 C_4 L_3 R_4 + 2 C_1 C_4 L_4 R_3 + C_1 C_4 L_4 R_4 + 2 C_3 C_4 L_3 R_3 R_4 g_m + 2 C_4 L_3 L_4 g_m) + s^2 (2 C_1 C}$$

**10.247  INVALID-ORDER-247** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{R_3 (C_3 L_3 s^2 + 1)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_3 R_3 R_4 g_m s^2 + R_3 R_4 g_m}{2 R_3 g_m + R_4 g_m + s^3 (2 C_1 C_3 L_3 R_3 + C_1 C_3 L_3 R_4) + s^2 (C_1 C_3 R_3 R_4 + 2 C_3 L_3 R_3 g_m + C_3 L_3 R_4 g_m) + s (2 C_1 R_3 + C_1 R_4 + C_3 R_3 R_4 g_m)}$$

**10.248  INVALID-ORDER-248** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{R_3 (C_3 L_3 s^2 + 1)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_3 R_3 g_m s^2 + R_3 g_m}{2 C_1 C_3 C_4 L_3 R_3 s^4 + g_m + s^3 (C_1 C_3 L_3 + 2 C_3 C_4 L_3 R_3 g_m) + s^2 (C_1 C_3 R_3 + 2 C_1 C_4 R_3 + C_3 L_3 g_m) + s (C_1 + C_3 R_3 g_m + 2 C_4 R_3 g_m)}$$

**10.249  INVALID-ORDER-249** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{R_3 (C_3 L_3 s^2 + 1)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_3 R_3 R_4 g_m s^2 + R_3 R_4 g_m}{2 C_1 C_3 C_4 L_3 R_3 R_4 s^4 + 2 R_3 g_m + R_4 g_m + s^3 (2 C_1 C_3 L_3 R_3 + C_1 C_3 L_3 R_4 + 2 C_3 C_4 L_3 R_3 R_4 g_m) + s^2 (C_1 C_3 R_3 R_4 + 2 C_1 C_4 R_3 R_4 + 2 C_3 L_3 R_3 g_m + C_3 L_3 R_4 g_m) + s (2 C_1 R_3 + C_1 R_4 + C_3 R_3 R_4 g_m + 2 C_4 R_3 R_4 g_m)}$$

**10.250  INVALID-ORDER-250** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{R_3 (C_3 L_3 s^2 + 1)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_3 R_3 R_4 g_m s^3 + C_3 L_3 R_3 g_m s^2 + C_4 R_3 R_4 g_m s + R_3 g_m}{g_m + s^4 (2 C_1 C_3 C_4 L_3 R_3 + C_1 C_3 C_4 L_3 R_4) + s^3 (C_1 C_3 C_4 R_3 R_4 + C_1 C_3 L_3 + 2 C_3 C_4 L_3 R_3 g_m + C_3 C_4 L_3 R_4 g_m) + s^2 (C_1 C_3 R_3 + 2 C_1 C_4 R_3 + C_1 C_4 R_4 + C_3 C_4 R_3 R_4 g_m + C_3 L_3 g_m) + s (C_1 + C_3 R_3 g_m + 2 C_4 R_3 g_m + C_4 R_4 g_m)}$$

**10.251  INVALID-ORDER-251** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{R_3 (C_3 L_3 s^2 + 1)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_3 L_4 R_3 g_m s^4 + R_3 g_m + s^2 (C_3 L_3 R_3 g_m + C_4 L_4 R_3 g_m)}{C_1 C_3 C_4 L_3 L_4 s^5 + g_m + s^4 (2 C_1 C_3 C_4 L_3 R_3 + C_1 C_3 C_4 L_4 R_3 + C_3 C_4 L_3 L_4 g_m) + s^3 (C_1 C_3 L_3 + C_1 C_4 L_4 + 2 C_3 C_4 L_3 R_3 g_m + C_3 C_4 L_4 R_3 g_m) + s^2 (C_1 C_3 R_3 + 2 C_1 C_4 R_3 + C_3 L_3 g_m + C_4 L_4 g_m) + s (C_1 + C_3 R_3 g_m + 2 C_4 R_3 g_m)}$$

**10.252  INVALID-ORDER-252** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{R_3 (C_3 L_3 s^2 + 1)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_3 L_4 R_3 g_m s^3 + L_4 R_3 g_m s}{2 C_1 C_3 C_4 L_3 L_4 R_3 s^5 + 2 R_3 g_m + s^4 (C_1 C_3 L_3 L_4 + 2 C_3 C_4 L_3 L_4 R_3 g_m) + s^3 (2 C_1 C_3 L_3 R_3 + C_1 C_3 L_4 R_3 + 2 C_1 C_4 L_4 R_3 + C_3 L_3 L_4 g_m) + s^2 (C_1 L_4 + 2 C_3 L_3 R_3 g_m + C_3 L_4 R_3 g_m + 2 C_4 L_4 R_3 g_m) + s (2 C_1 R_3 + L_4 g_m)}$$

**10.253  INVALID-ORDER-253** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_3 L_4 R_3 g_m s^4 + C_3 C_4 L_3 R_3 R_4 g_m s^3 + C_4 R_3 R_4 g_m s + R_3 g_m + s^2 \left(C_3 L_3 R_3 g_m + C_4 L_4 R_3 g_m\right)}{C_1 C_3 C_4 L_3 L_4 s^5 + g_m + s^4 \left(2 C_1 C_3 C_4 L_3 R_3 + C_1 C_3 C_4 L_3 R_4 + C_1 C_3 C_4 L_4 R_3 + C_3 C_4 L_3 L_4 g_m\right) + s^3 \left(C_1 C_3 C_4 R_3 R_4 + C_1 C_3 L_3 + C_1 C_4 L_4 + 2 C_3 C_4 L_3 R_3 g_m + C_3 C_4 L_3 R_4 g_m + C_3 C_4 L_4 R_3 g_m\right) + s^2 \left(C_1 C_3 R_3 + 2 C_1 C_4 R_3 + C_1 C_4 R_4 + C_3 C_4 R_3 R_4 g_m + C_3 L_3 g_m + C_4 L_4 g_m\right.}$$

**10.254  INVALID-ORDER-254** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_3 L_4 R_3 R_4 g_m s^3 + L_4 R_3 R_4 g_m s}{2 C_1 C_3 C_4 L_3 L_4 R_3 R_4 s^5 + 2 R_3 R_4 g_m + s^4 \left(2 C_1 C_3 L_3 L_4 R_3 + C_1 C_3 L_3 L_4 R_4 + 2 C_3 C_4 L_3 L_4 R_3 R_4 g_m\right) + s^3 \left(2 C_1 C_3 L_3 R_3 R_4 + C_1 C_3 L_4 R_3 R_4 + 2 C_1 C_4 L_4 R_3 R_4 + 2 C_3 L_3 L_4 R_3 g_m + C_3 L_3 L_4 R_4 g_m\right) + s^2 \left(2 C_1 L_4 R_3 + C_1 L_4 R_4 + 2 C_3 L_3 R_3 R_4 g_m + C_3 L_4 R_3 R_4 g_m + 2 C_4 L_4 R_3 R_4\right.}$$

**10.255  INVALID-ORDER-255** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_3 L_4 R_3 R_4 g_m s^4 + C_3 L_3 L_4 R_3 g_m s^3 + L_4 R_3 g_m s + R_3 R_4 g_m + s^2 \left(C_3 L_3 R_3 R_4 g_m + C_4 L_4 R_3 R_4 g_m\right)}{2 R_3 g_m + R_4 g_m + s^5 \left(2 C_1 C_3 C_4 L_3 L_4 R_3 + C_1 C_3 C_4 L_3 L_4 R_4\right) + s^4 \left(C_1 C_3 C_4 L_4 R_3 R_4 + C_1 C_3 L_3 L_4 + 2 C_3 C_4 L_3 L_4 R_3 g_m + C_3 C_4 L_3 L_4 R_4 g_m\right) + s^3 \left(2 C_1 C_3 L_3 R_3 + C_1 C_3 L_3 R_4 + C_1 C_3 L_4 R_3 + 2 C_1 C_4 L_4 R_3 + C_1 C_4 L_4 R_4 + C_3 C_4 L_4 R_3 R_4 g_m + C_3 L_3 L_4 g_m\right) + s^2 \left(C_1 C_3 R_3 R_4 \right.}$$

**10.256  INVALID-ORDER-256** $Z(s) = \left( \frac{1}{C_1 s}, \ \infty, \ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_3 L_4 R_3 R_4 g_m s^4 + R_3 R_4 g_m + s^2 \left(C_3 L_3 R_3 R_4 g_m + C_4 L_4 R_3 R_4 g_m\right)}{2 R_3 g_m + R_4 g_m + s^5 \left(2 C_1 C_3 C_4 L_3 L_4 R_3 + C_1 C_3 C_4 L_3 L_4 R_4\right) + s^4 \left(2 C_1 C_3 C_4 L_3 R_3 R_4 + C_1 C_3 C_4 L_4 R_3 R_4 + 2 C_3 C_4 L_3 L_4 R_3 g_m + C_3 C_4 L_3 L_4 R_4 g_m\right) + s^3 \left(2 C_1 C_3 L_3 R_3 + C_1 C_3 L_3 R_4 + 2 C_1 C_4 L_4 R_3 + C_1 C_4 L_4 R_4 + 2 C_3 C_4 L_3 R_3 R_4 g_m + C_3 C_4 L_4 R_3 R_4 g_m\right) + s^2 \left(C_1 C_3 R_3 R_4 \right.}$$

**10.257  INVALID-ORDER-257** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ R_3, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{R_1 R_3 R_4 g_m}{2 R_1 R_3 g_m + R_1 R_4 g_m + 2 R_3 + R_4 + s \left(2 C_1 R_1 R_3 + C_1 R_1 R_4\right)}$$

**10.258  INVALID-ORDER-258** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ R_3, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_4 R_1 R_3 g_m s^2 + R_1 R_3 g_m}{C_1 C_4 L_4 R_1 s^3 + R_1 g_m + s^2 \left(2 C_1 C_4 R_1 R_3 + C_4 L_4 R_1 g_m + C_4 L_4\right) + s \left(C_1 R_1 + 2 C_4 R_1 R_3 g_m + 2 C_4 R_3\right) + 1}$$

**10.259  INVALID-ORDER-259** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ R_3, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_4 R_1 R_3 g_m s}{2 C_1 C_4 L_4 R_1 R_3 s^3 + 2 R_1 R_3 g_m + 2 R_3 + s^2 \left(C_1 L_4 R_1 + 2 C_4 L_4 R_1 R_3 g_m + 2 C_4 L_4 R_3\right) + s \left(2 C_1 R_1 R_3 + L_4 R_1 g_m + L_4\right)}$$

**10.260  INVALID-ORDER-260** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ R_3, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_4 R_1 R_3 g_m s^2 + C_4 R_1 R_3 R_4 g_m s + R_1 R_3 g_m}{C_1 C_4 L_4 R_1 s^3 + R_1 g_m + s^2 \left(2 C_1 C_4 R_1 R_3 + C_1 C_4 R_1 R_4 + C_4 L_4 R_1 g_m + C_4 L_4\right) + s \left(C_1 R_1 + 2 C_4 R_1 R_3 g_m + C_4 R_1 R_4 g_m + 2 C_4 R_3 + C_4 R_4\right) + 1}$$

**10.261  INVALID-ORDER-261** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ R_3, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_4 R_1 R_3 R_4 g_m s}{2 C_1 C_4 L_4 R_1 R_3 R_4 s^3 + 2 R_1 R_3 R_4 g_m + 2 R_3 R_4 + s^2 \left(2 C_1 L_4 R_1 R_3 + C_1 L_4 R_1 R_4 + 2 C_4 L_4 R_1 R_3 R_4 g_m + 2 C_4 L_4 R_3 R_4\right) + s \left(2 C_1 R_1 R_3 R_4 + 2 L_4 R_1 R_3 g_m + L_4 R_1 R_4 g_m + 2 L_4 R_3 + L_4 R_4\right)}$$

**10.262 INVALID-ORDER-262** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ R_3, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_4 R_1 R_3 R_4 g_m s^2 + L_4 R_1 R_3 g_m s + R_1 R_3 R_4 g_m}{2 R_1 R_3 g_m + R_1 R_4 g_m + 2 R_3 + R_4 + s^3 \left( 2 C_1 C_4 L_4 R_1 R_3 + C_1 C_4 L_4 R_1 R_4 \right) + s^2 \left( C_1 L_4 R_1 + 2 C_4 L_4 R_1 R_3 g_m + C_4 L_4 R_1 R_4 g_m + 2 C_4 L_4 R_3 + C_4 L_4 R_4 \right) + s \left( 2 C_1 R_1 R_3 + C_1 R_1 R_4 + L_4 R_1 g_m + L_4 \right)}$$

**10.263 INVALID-ORDER-263** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ R_3, \ \frac{R_4 \left( C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_4 R_1 R_3 R_4 g_m s^2 + R_1 R_3 R_4 g_m}{2 R_1 R_3 g_m + R_1 R_4 g_m + 2 R_3 + R_4 + s^3 \left( 2 C_1 C_4 L_4 R_1 R_3 + C_1 C_4 L_4 R_1 R_4 \right) + s^2 \left( 2 C_1 C_4 R_1 R_3 R_4 + 2 C_4 L_4 R_1 R_3 g_m + C_4 L_4 R_1 R_4 g_m + 2 C_4 L_4 R_3 + C_4 L_4 R_4 \right) + s \left( 2 C_1 R_1 R_3 + C_1 R_1 R_4 + 2 C_4 R_1 R_3 R_4 g_m + 2 C_4 R_3 R_4 \right)}$$

**10.264 INVALID-ORDER-264** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{R_1 g_m}{s^2 \left( C_1 C_3 R_1 + 2 C_1 C_4 R_1 \right) + s \left( C_3 R_1 g_m + C_3 + 2 C_4 R_1 g_m + 2 C_4 \right)}$$

**10.265 INVALID-ORDER-265** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \frac{1}{C_3 s}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 R_1 R_4 g_m s + R_1 g_m}{C_1 C_3 C_4 R_1 R_4 s^3 + s^2 \left( C_1 C_3 R_1 + 2 C_1 C_4 R_1 + C_3 C_4 R_1 R_4 g_m + C_3 C_4 R_4 \right) + s \left( C_3 R_1 g_m + C_3 + 2 C_4 R_1 g_m + 2 C_4 \right)}$$

**10.266 INVALID-ORDER-266** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_4 R_1 g_m s^2 + R_1 g_m}{C_1 C_3 C_4 L_4 R_1 s^4 + s^3 \left( C_3 C_4 L_4 R_1 g_m + C_3 C_4 L_4 \right) + s^2 \left( C_1 C_3 R_1 + 2 C_1 C_4 R_1 \right) + s \left( C_3 R_1 g_m + C_3 + 2 C_4 R_1 g_m + 2 C_4 \right)}$$

**10.267 INVALID-ORDER-267** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_4 R_1 g_m s}{2 C_1 R_1 s + 2 R_1 g_m + s^3 \left( C_1 C_3 L_4 R_1 + 2 C_1 C_4 L_4 R_1 \right) + s^2 \left( C_3 L_4 R_1 g_m + C_3 L_4 + 2 C_4 L_4 R_1 g_m + 2 C_4 L_4 \right) + 2}$$

**10.268 INVALID-ORDER-268** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \frac{1}{C_3 s}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_4 R_1 g_m s^2 + C_4 R_1 R_4 g_m s + R_1 g_m}{C_1 C_3 C_4 L_4 R_1 s^4 + s^3 \left( C_1 C_3 C_4 R_1 R_4 + C_3 C_4 L_4 R_1 g_m + C_3 C_4 L_4 \right) + s^2 \left( C_1 C_3 R_1 + 2 C_1 C_4 R_1 + C_3 C_4 R_1 R_4 g_m + C_3 C_4 R_4 \right) + s \left( C_3 R_1 g_m + C_3 + 2 C_4 R_1 g_m + 2 C_4 \right)}$$

**10.269 INVALID-ORDER-269** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_4 R_1 R_4 g_m s}{2 R_1 R_4 g_m + 2 R_4 + s^3 \left( C_1 C_3 L_4 R_1 R_4 + 2 C_1 C_4 L_4 R_1 R_4 \right) + s^2 \left( 2 C_1 L_4 R_1 + C_3 L_4 R_1 R_4 g_m + C_3 L_4 R_4 + 2 C_4 L_4 R_1 R_4 g_m + 2 C_4 L_4 R_4 \right) + s \left( 2 C_1 R_1 R_4 + 2 L_4 R_1 g_m + 2 L_4 \right)}$$

**10.270 INVALID-ORDER-270** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_4 R_1 R_4 g_m s^2 + L_4 R_1 g_m s + R_1 R_4 g_m}{C_1 C_3 C_4 L_4 R_1 R_4 s^4 + 2 R_1 g_m + s^3 \left( C_1 C_3 L_4 R_1 + 2 C_1 C_4 L_4 R_1 + C_3 C_4 L_4 R_1 R_4 g_m + C_3 C_4 L_4 R_4 \right) + s^2 \left( C_1 C_3 R_1 R_4 + C_3 L_4 R_1 g_m + C_3 L_4 + 2 C_4 L_4 R_1 g_m + 2 C_4 L_4 \right) + s \left( 2 C_1 R_1 + C_3 R_1 R_4 g_m + C_3 R_4 \right) + 2}$$

**10.271 INVALID-ORDER-271** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{R_4 \left( C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_4 R_1 R_4 g_m s^2 + R_1 R_4 g_m}{C_1 C_3 C_4 L_4 R_1 R_4 s^4 + 2 R_1 g_m + s^3 \left( 2 C_1 C_4 L_4 R_1 + C_3 C_4 L_4 R_1 R_4 g_m + C_3 C_4 L_4 R_4 \right) + s^2 \left( C_1 C_3 R_1 R_4 + 2 C_1 C_4 R_1 R_4 + 2 C_4 L_4 R_1 g_m + 2 C_4 L_4 \right) + s \left( 2 C_1 R_1 + C_3 R_1 R_4 g_m + C_3 R_4 + 2 C_4 R_1 R_4 g_m + 2 C_4 R_4 \right) + 2}$$

**10.272  INVALID-ORDER-272** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 R_1 R_3 R_4 g_m s + R_1 R_3 g_m}{C_1 C_3 C_4 R_1 R_3 R_4 s^3 + R_1 g_m + s^2 \left( C_1 C_3 R_1 R_3 + 2 C_1 C_4 R_1 R_3 + C_1 C_4 R_1 R_4 + C_3 C_4 R_1 R_3 R_4 g_m + C_3 C_4 R_3 R_4 \right) + s \left( C_1 R_1 + C_3 R_1 R_3 g_m + C_3 R_3 + 2 C_4 R_1 R_3 g_m + C_4 R_1 R_4 g_m + 2 C_4 R_3 + C_4 R_4 \right) + 1}$$

**10.273  INVALID-ORDER-273** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_4 R_1 R_3 g_m s^2 + R_1 R_3 g_m}{C_1 C_3 C_4 L_4 R_1 R_3 s^4 + R_1 g_m + s^3 \left( C_1 C_4 L_4 R_1 + C_3 C_4 L_4 R_1 R_3 g_m + C_3 C_4 L_4 R_3 \right) + s^2 \left( C_1 C_3 R_1 R_3 + 2 C_1 C_4 R_1 R_3 + C_4 L_4 R_1 g_m + C_4 L_4 \right) + s \left( C_1 R_1 + C_3 R_1 R_3 g_m + C_3 R_3 + 2 C_4 R_1 R_3 g_m + 2 C_4 R_3 \right) + 1}$$

**10.274  INVALID-ORDER-274** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_4 R_1 R_3 g_m s}{2 R_1 R_3 g_m + 2 R_3 + s^3 \left( C_1 C_3 L_4 R_1 R_3 + 2 C_1 C_4 L_4 R_1 R_3 \right) + s^2 \left( C_1 L_4 R_1 + C_3 L_4 R_1 R_3 g_m + C_3 L_4 R_3 + 2 C_4 L_4 R_1 R_3 g_m + 2 C_4 L_4 R_3 \right) + s \left( 2 C_1 R_1 R_3 + L_4 R_1 g_m + L_4 \right)}$$

**10.275  INVALID-ORDER-275** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_4 R_1 R_3 g_m s^2 + C_4 R_1 R_3 R_4 g_m s + R_1 R_3 g_m}{C_1 C_3 C_4 L_4 R_1 R_3 s^4 + R_1 g_m + s^3 \left( C_1 C_3 C_4 R_1 R_3 R_4 + C_1 C_4 L_4 R_1 + C_3 C_4 L_4 R_1 R_3 g_m + C_3 C_4 L_4 R_3 \right) + s^2 \left( C_1 C_3 R_1 R_3 + 2 C_1 C_4 R_1 R_3 + C_1 C_4 R_1 R_4 + C_3 C_4 R_1 R_3 R_4 g_m + C_3 C_4 R_3 R_4 + C_4 L_4 R_1 g_m + C_4 L_4 \right) + s \left( C_1 R_1 + C_3 R_1 R_3 g_m + C_3 R_3 + 2 C_4 R_1 R_3 g_m + C_4 R_1 R_4 g_m \right.}$$

**10.276  INVALID-ORDER-276** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_4 R_1 R_3 R_4 g_m s}{2 R_1 R_3 R_4 g_m + 2 R_3 R_4 + s^3 \left( C_1 C_3 L_4 R_1 R_3 R_4 + 2 C_1 C_4 L_4 R_1 R_3 R_4 \right) + s^2 \left( 2 C_1 L_4 R_1 R_3 + C_1 L_4 R_1 R_4 + C_3 L_4 R_1 R_3 R_4 g_m + C_3 L_4 R_3 R_4 + 2 C_4 L_4 R_1 R_3 R_4 g_m + 2 C_4 L_4 R_3 R_4 \right) + s \left( 2 C_1 R_1 R_3 R_4 + 2 L_4 R_1 R_3 g_m + L_4 R_1 R_4 g_m + 2 L_4 R_3 + L_4 R_4 \right)}$$

**10.277  INVALID-ORDER-277** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_4 R_1 R_3 R_4 g_m s^2 + L_4 R_1 R_3 g_m s + R_1 R_3 R_4 g_m}{C_1 C_3 C_4 L_4 R_1 R_3 R_4 s^4 + 2 R_1 R_3 g_m + R_1 R_4 g_m + 2 R_3 + R_4 + s^3 \left( C_1 C_3 L_4 R_1 R_3 + 2 C_1 C_4 L_4 R_1 R_3 + C_1 C_4 L_4 R_1 R_4 + C_3 C_4 L_4 R_1 R_3 R_4 g_m + C_3 C_4 L_4 R_3 R_4 \right) + s^2 \left( C_1 C_3 R_1 R_3 R_4 + C_1 L_4 R_1 + C_3 L_4 R_1 R_3 g_m + C_3 L_4 R_3 + 2 C_4 L_4 R_1 R_3 g_m + C_4 L_4 R_1 R_4 g_m + 2 C_4 L_4 R_3 + C \right.}$$

**10.278  INVALID-ORDER-278** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ \frac{R_4 \left( C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_4 R_1 R_3 R_4 g_m s^2 + R_1 R_3 R_4 g_m}{C_1 C_3 C_4 L_4 R_1 R_3 R_4 s^4 + 2 R_1 R_3 g_m + R_1 R_4 g_m + 2 R_3 + R_4 + s^3 \left( 2 C_1 C_4 L_4 R_1 R_3 + C_1 C_4 L_4 R_1 R_4 + C_3 C_4 L_4 R_1 R_3 R_4 g_m + C_3 C_4 L_4 R_3 R_4 \right) + s^2 \left( C_1 C_3 R_1 R_3 R_4 + 2 C_1 C_4 R_1 R_3 R_4 + 2 C_4 L_4 R_1 R_3 g_m + C_4 L_4 R_1 R_4 g_m + 2 C_4 L_4 R_3 + C_4 L_4 R_4 \right) + s \left( 2 C_1 R_1 R_3 + C_1 R_1 R_4 + C \right.}$$

**10.279  INVALID-ORDER-279** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 R_1 R_3 g_m s + R_1 g_m}{2 C_1 C_3 C_4 R_1 R_3 s^3 + s^2 \left( C_1 C_3 R_1 + 2 C_1 C_4 R_1 + 2 C_3 C_4 R_1 R_3 g_m + 2 C_3 C_4 R_3 \right) + s \left( C_3 R_1 g_m + C_3 + 2 C_4 R_1 g_m + 2 C_4 \right)}$$

**10.280  INVALID-ORDER-280** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 R_1 R_3 R_4 g_m s + R_1 R_4 g_m}{2 C_1 C_3 C_4 R_1 R_3 R_4 s^3 + 2 R_1 g_m + s^2 \left( 2 C_1 C_3 R_1 R_3 + C_1 C_3 R_1 R_4 + 2 C_1 C_4 R_1 R_4 + 2 C_3 C_4 R_1 R_3 R_4 g_m + 2 C_3 C_4 R_3 R_4 \right) + s \left( 2 C_1 R_1 + 2 C_3 R_1 R_3 g_m + C_3 R_1 R_4 g_m + 2 C_3 R_3 + C_3 R_4 + 2 C_4 R_1 R_4 g_m + 2 C_4 R_4 \right) + 2}$$

**10.281  INVALID-ORDER-281** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 R_1 R_3 R_4 g_m s^2 + R_1 g_m + s \left( C_3 R_1 R_3 g_m + C_4 R_1 R_4 g_m \right)}{s^3 \left( 2 C_1 C_3 C_4 R_1 R_3 + C_1 C_3 C_4 R_1 R_4 \right) + s^2 \left( C_1 C_3 R_1 + 2 C_1 C_4 R_1 + 2 C_3 C_4 R_1 R_3 g_m + C_3 C_4 R_1 R_4 g_m + 2 C_3 C_4 R_3 + C_3 C_4 R_4 \right) + s \left( C_3 R_1 g_m + C_3 + 2 C_4 R_1 g_m + 2 C_4 \right)}$$

**10.282  INVALID-ORDER-282** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_4 R_1 R_3 g_m s^3 + C_3 R_1 R_3 g_m s + C_4 L_4 R_1 g_m s^2 + R_1 g_m}{C_1 C_3 C_4 L_4 R_1 s^4 + s^3 \left( 2C_1 C_3 C_4 R_1 R_3 + C_3 C_4 L_4 R_1 g_m + C_3 C_4 L_4 \right) + s^2 \left( C_1 C_3 R_1 + 2C_1 C_4 R_1 + 2C_3 C_4 R_1 R_3 g_m + 2C_3 C_4 R_3 \right) + s \left( C_3 R_1 g_m + C_3 + 2C_4 R_1 g_m + 2C_4 \right)}$$

**10.283  INVALID-ORDER-283** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_4 R_1 R_3 g_m s^2 + L_4 R_1 g_m s}{2C_1 C_3 C_4 L_4 R_1 R_3 s^4 + 2R_1 g_m + s^3 \left( C_1 C_3 L_4 R_1 + 2C_1 C_4 L_4 R_1 + 2C_3 C_4 L_4 R_1 R_3 g_m + 2C_3 C_4 L_4 R_3 \right) + s^2 \left( 2C_1 C_3 R_1 R_3 + C_3 L_4 R_1 g_m + C_3 L_4 + 2C_4 L_4 R_1 g_m + 2C_4 L_4 \right) + s \left( 2C_1 R_1 + 2C_3 R_1 R_3 g_m + 2C_3 R_3 \right) + 2}$$

**10.284  INVALID-ORDER-284** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_4 R_1 R_3 g_m s^3 + R_1 g_m + s^2 \left( C_3 C_4 R_1 R_3 R_4 g_m + C_4 L_4 R_1 g_m \right) + s \left( C_3 R_1 R_3 g_m + C_4 R_1 R_4 g_m \right)}{C_1 C_3 C_4 L_4 R_1 s^4 + s^3 \left( 2C_1 C_3 C_4 R_1 R_3 + C_1 C_3 C_4 R_1 R_4 + C_3 C_4 L_4 R_1 g_m + C_3 C_4 L_4 \right) + s^2 \left( C_1 C_3 R_1 + 2C_1 C_4 R_1 + 2C_3 C_4 R_1 R_3 g_m + C_3 C_4 R_1 R_4 g_m + 2C_3 C_4 R_3 + C_3 C_4 R_4 \right) + s \left( C_3 R_1 g_m + C_3 + 2C_4 R_1 g_m + 2C_4 \right)}$$

**10.285  INVALID-ORDER-285** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_4 R_1 R_3 R_4 g_m s^2 + L_4 R_1 R_4 g_m s}{2C_1 C_3 C_4 L_4 R_1 R_3 R_4 s^4 + 2R_1 R_4 g_m + 2R_4 + s^3 \left( 2C_1 C_3 L_4 R_1 R_3 + C_1 C_3 L_4 R_1 R_4 + 2C_1 C_4 L_4 R_1 R_4 + 2C_3 C_4 L_4 R_1 R_3 R_4 g_m + 2C_3 C_4 L_4 R_3 R_4 \right) + s^2 \left( 2C_1 C_3 R_1 R_3 R_4 + 2C_1 L_4 R_1 + 2C_3 L_4 R_1 R_3 g_m + C_3 L_4 R_1 R_4 g_m + 2C_3 L_4 R_3 + C_3 L_4 R_4 + 2C_4 L_4 R_1 R_4 g_m + 2C_4 L_4 R_4 \right)}$$

**10.286  INVALID-ORDER-286** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_4 R_1 R_3 R_4 g_m s^3 + R_1 R_4 g_m + s^2 \left( C_3 L_4 R_1 R_3 g_m + C_4 L_4 R_1 R_4 g_m \right) + s \left( C_3 R_1 R_3 R_4 g_m + L_4 R_1 g_m \right)}{2R_1 g_m + s^4 \left( 2C_1 C_3 C_4 L_4 R_1 R_3 + C_1 C_3 C_4 L_4 R_1 R_4 \right) + s^3 \left( C_1 C_3 L_4 R_1 + 2C_1 C_4 L_4 R_1 + 2C_3 C_4 L_4 R_1 R_3 g_m + C_3 C_4 L_4 R_1 R_4 g_m + 2C_3 C_4 L_4 R_3 + C_3 C_4 L_4 R_4 \right) + s^2 \left( 2C_1 C_3 R_1 R_3 + C_1 C_3 R_1 R_4 + C_3 L_4 R_1 g_m + C_3 L_4 + 2C_4 L_4 R_1 g_m + 2C_4 L_4 \right) + s \left( 2C_1 R_1 + 2C_3 R_1 R_3 g_m + \right.}$$

**10.287  INVALID-ORDER-287** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{R_4 \left( C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_4 R_1 R_3 R_4 g_m s^3 + C_3 R_1 R_3 R_4 g_m s + C_4 L_4 R_1 R_4 g_m s^2 + R_1 R_4 g_m}{2R_1 g_m + s^4 \left( 2C_1 C_3 C_4 L_4 R_1 R_3 + C_1 C_3 C_4 L_4 R_1 R_4 \right) + s^3 \left( 2C_1 C_3 C_4 R_1 R_3 R_4 + 2C_1 C_4 L_4 R_1 + 2C_3 C_4 L_4 R_1 R_3 g_m + C_3 C_4 L_4 R_1 R_4 g_m + 2C_3 C_4 L_4 R_3 + C_3 C_4 L_4 R_4 \right) + s^2 \left( 2C_1 C_3 R_1 R_3 + C_1 C_3 R_1 R_4 + 2C_1 C_4 R_1 R_4 + 2C_3 C_4 R_1 R_3 R_4 g_m + 2C_3 C_4 R_3 R_4 + 2C_4 L_4 R_1 g_m + 2}$$

**10.288  INVALID-ORDER-288** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_3 R_1 R_4 g_m s^2 + R_1 R_4 g_m}{2C_1 C_3 L_3 R_1 s^3 + 2R_1 g_m + s^2 \left( C_1 C_3 R_1 R_4 + 2C_3 L_3 R_1 g_m + 2C_3 L_3 \right) + s \left( 2C_1 R_1 + C_3 R_1 R_4 g_m + C_3 R_4 \right) + 2}$$

**10.289  INVALID-ORDER-289** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_3 R_1 g_m s^2 + R_1 g_m}{2C_1 C_3 C_4 L_3 R_1 s^4 + s^3 \left( 2C_3 C_4 L_3 R_1 g_m + 2C_3 C_4 L_3 \right) + s^2 \left( C_1 C_3 R_1 + 2C_1 C_4 R_1 \right) + s \left( C_3 R_1 g_m + C_3 + 2C_4 R_1 g_m + 2C_4 \right)}$$

**10.290  INVALID-ORDER-290** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_3 R_1 R_4 g_m s^2 + R_1 R_4 g_m}{2C_1 C_3 C_4 L_3 R_1 R_4 s^4 + 2R_1 g_m + s^3 \left( 2C_1 C_3 L_3 R_1 + 2C_3 C_4 L_3 R_1 R_4 g_m + 2C_3 C_4 L_3 R_4 \right) + s^2 \left( C_1 C_3 R_1 R_4 + 2C_1 C_4 R_1 R_4 + 2C_3 L_3 R_1 g_m + 2C_3 L_3 \right) + s \left( 2C_1 R_1 + C_3 R_1 R_4 g_m + C_3 R_4 + 2C_4 R_1 R_4 g_m + 2C_4 R_4 \right) + 2}$$

**10.291**  **INVALID-ORDER-291**  $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_3 R_1 R_4 g_m s^3 + C_3 L_3 R_1 g_m s^2 + C_4 R_1 R_4 g_m s + R_1 g_m}{2 C_1 C_3 C_4 L_3 R_1 s^4 + s^3 \left( C_1 C_3 C_4 R_1 R_4 + 2 C_3 C_4 L_3 R_1 g_m + 2 C_3 C_4 L_3 \right) + s^2 \left( C_1 C_3 R_1 + 2 C_1 C_4 R_1 + C_3 C_4 R_1 R_4 g_m + C_3 C_4 R_4 \right) + s \left( C_3 R_1 g_m + C_3 + 2 C_4 R_1 g_m + 2 C_4 \right)}$$

**10.292**  **INVALID-ORDER-292**  $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_3 L_4 R_1 g_m s^4 + R_1 g_m + s^2 \left( C_3 L_3 R_1 g_m + C_4 L_4 R_1 g_m \right)}{s^4 \left( 2 C_1 C_3 C_4 L_3 R_1 + C_1 C_3 C_4 L_4 R_1 \right) + s^3 \left( 2 C_3 C_4 L_3 R_1 g_m + 2 C_3 C_4 L_3 + C_3 C_4 L_4 R_1 g_m + C_3 C_4 L_4 \right) + s^2 \left( C_1 C_3 R_1 + 2 C_1 C_4 R_1 \right) + s \left( C_3 R_1 g_m + C_3 + 2 C_4 R_1 g_m + 2 C_4 \right)}$$

**10.293**  **INVALID-ORDER-293**  $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_3 L_4 R_1 g_m s^3 + L_4 R_1 g_m s}{2 C_1 C_3 C_4 L_3 L_4 R_1 s^5 + 2 C_1 R_1 s + 2 R_1 g_m + s^4 \left( 2 C_3 C_4 L_3 L_4 R_1 g_m + 2 C_3 C_4 L_3 L_4 \right) + s^3 \left( 2 C_1 C_3 L_3 R_1 + C_1 C_3 L_4 R_1 + 2 C_1 C_4 L_4 R_1 \right) + s^2 \left( 2 C_3 L_3 R_1 g_m + 2 C_3 L_3 + C_3 L_4 R_1 g_m + C_3 L_4 + 2 C_4 L_4 R_1 g_m + 2 C_4 L_4 \right) + 2}$$

**10.294**  **INVALID-ORDER-294**  $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_3 L_4 R_1 g_m s^4 + C_3 C_4 L_3 R_1 R_4 g_m s^3 + C_4 R_1 R_4 g_m s + R_1 g_m + s^2 \left( C_3 L_3 R_1 g_m + C_4 L_4 R_1 g_m \right)}{s^4 \left( 2 C_1 C_3 C_4 L_3 R_1 + C_1 C_3 C_4 L_4 R_1 \right) + s^3 \left( C_1 C_3 C_4 R_1 R_4 + 2 C_3 C_4 L_3 R_1 g_m + 2 C_3 C_4 L_3 + C_3 C_4 L_4 R_1 g_m + C_3 C_4 L_4 \right) + s^2 \left( C_1 C_3 R_1 + 2 C_1 C_4 R_1 + C_3 C_4 R_1 R_4 g_m + C_3 C_4 R_4 \right) + s \left( C_3 R_1 g_m + C_3 + 2 C_4 R_1 g_m + 2 C_4 \right)}$$

**10.295**  **INVALID-ORDER-295**  $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_3 L_4 R_1 R_4 g_m s^3 + L_4 R_1 R_4 g_m s}{2 C_1 C_3 C_4 L_3 L_4 R_1 R_4 s^5 + 2 R_1 R_4 g_m + 2 R_4 + s^4 \left( 2 C_1 C_3 L_3 L_4 R_1 + 2 C_3 C_4 L_3 L_4 R_1 R_4 g_m + 2 C_3 C_4 L_3 L_4 R_4 \right) + s^3 \left( 2 C_1 C_3 L_3 R_1 R_4 + C_1 C_3 L_4 R_1 R_4 + 2 C_1 C_4 L_4 R_1 R_4 + 2 C_3 L_3 L_4 R_1 g_m + 2 C_3 L_3 L_4 \right) + s^2 \left( 2 C_1 L_4 R_1 + 2 C_3 L_3 R_1 R_4 g_m + 2 C_3 L_3 R_4 + C_3 L_4 R_1 R_4 g_m + C_3 L_4 }$$

**10.296**  **INVALID-ORDER-296**  $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_3 L_4 R_1 R_4 g_m s^4 + C_3 L_3 L_4 R_1 g_m s^3 + L_4 R_1 g_m s + R_1 R_4 g_m + s^2 \left( C_3 L_3 R_1 R_4 g_m + C_4 L_4 R_1 R_4 g_m \right)}{2 C_1 C_3 C_4 L_3 L_4 R_1 s^5 + 2 R_1 g_m + s^4 \left( C_1 C_3 C_4 L_4 R_1 R_4 + 2 C_3 C_4 L_3 L_4 R_1 g_m + 2 C_3 C_4 L_3 L_4 \right) + s^3 \left( 2 C_1 C_3 L_3 R_1 + C_1 C_3 L_4 R_1 + 2 C_1 C_4 L_4 R_1 + C_3 C_4 L_4 R_1 R_4 g_m + C_3 C_4 L_4 R_4 \right) + s^2 \left( C_1 C_3 R_1 R_4 + 2 C_3 L_3 R_1 g_m + 2 C_3 L_3 + C_3 L_4 R_1 g_m + C_3 L_4 + 2 C_4 L_4 R_1 g_m + 2 C_4 L_4 \right) + s}$$

**10.297**  **INVALID-ORDER-297**  $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{R_4 \left( C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_3 L_4 R_1 R_4 g_m s^4 + R_1 R_4 g_m + s^2 \left( C_3 L_3 R_1 R_4 g_m + C_4 L_4 R_1 R_4 g_m \right)}{2 C_1 C_3 C_4 L_3 L_4 R_1 s^5 + 2 R_1 g_m + s^4 \left( 2 C_1 C_3 C_4 L_3 R_1 R_4 + C_1 C_3 C_4 L_4 R_1 R_4 + 2 C_3 C_4 L_3 L_4 R_1 g_m + 2 C_3 C_4 L_3 L_4 \right) + s^3 \left( 2 C_1 C_3 L_3 R_1 + 2 C_1 C_4 L_4 R_1 + 2 C_3 C_4 L_3 R_1 R_4 g_m + 2 C_3 C_4 L_3 R_4 + C_3 C_4 L_4 R_1 R_4 g_m + C_3 C_4 L_4 R_4 \right) + s^2 \left( C_1 C_3 R_1 R_4 + 2 C_1 C_4 R_1 R_4 + 2 C_3 L_3 R_1 g_m + 2 }$$

**10.298**  **INVALID-ORDER-298**  $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_3 R_1 R_4 g_m s}{C_1 C_3 L_3 R_1 R_4 s^3 + R_1 R_4 g_m + R_4 + s^2 \left( 2 C_1 L_3 R_1 + C_3 L_3 R_1 R_4 g_m + C_3 L_3 R_4 \right) + s \left( C_1 R_1 R_4 + 2 L_3 R_1 g_m + 2 L_3 \right)}$$

**10.299**  **INVALID-ORDER-299**  $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_3 R_1 g_m s}{C_1 R_1 s + R_1 g_m + s^3 \left( C_1 C_3 L_3 R_1 + 2 C_1 C_4 L_3 R_1 \right) + s^2 \left( C_3 L_3 R_1 g_m + C_3 L_3 + 2 C_4 L_3 R_1 g_m + 2 C_4 L_3 \right) + 1}$$

**10.300**  **INVALID-ORDER-300**  $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_3 R_1 R_4 g_m s}{R_1 R_4 g_m + R_4 + s^3 \left( C_1 C_3 L_3 R_1 R_4 + 2 C_1 C_4 L_3 R_1 R_4 \right) + s^2 \left( 2 C_1 L_3 R_1 + C_3 L_3 R_1 R_4 g_m + C_3 L_3 R_4 + 2 C_4 L_3 R_1 R_4 g_m + 2 C_4 L_3 R_4 \right) + s \left( C_1 R_1 R_4 + 2 L_3 R_1 g_m + 2 L_3 \right)}$$

**10.301  INVALID-ORDER-301** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_3 R_1 R_4 g_m s^2 + L_3 R_1 g_m s}{C_1 C_3 C_4 L_3 R_1 R_4 s^4 + R_1 g_m + s^3 \left( C_1 C_3 L_3 R_1 + 2 C_1 C_4 L_3 R_1 + C_3 C_4 L_3 R_1 R_4 g_m + C_3 C_4 L_3 R_4 \right) + s^2 \left( C_1 C_4 R_1 R_4 + C_3 L_3 R_1 g_m + C_3 L_3 + 2 C_4 L_3 R_1 g_m + 2 C_4 L_3 \right) + s \left( C_1 R_1 + C_4 R_1 R_4 g_m + C_4 R_4 \right) + 1}$$

**10.302  INVALID-ORDER-302** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_3 L_4 R_1 g_m s^3 + L_3 R_1 g_m s}{C_1 C_3 C_4 L_3 L_4 R_1 s^5 + C_1 R_1 s + R_1 g_m + s^4 \left( C_3 C_4 L_3 L_4 R_1 g_m + C_3 C_4 L_3 L_4 \right) + s^3 \left( C_1 C_3 L_3 R_1 + 2 C_1 C_4 L_3 R_1 + C_1 C_4 L_4 R_1 \right) + s^2 \left( C_3 L_3 R_1 g_m + C_3 L_3 + 2 C_4 L_3 R_1 g_m + 2 C_4 L_3 + C_4 L_4 R_1 g_m + C_4 L_4 \right) + 1}$$

**10.303  INVALID-ORDER-303** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_3 L_4 R_1 g_m s}{2 L_3 R_1 g_m + 2 L_3 + L_4 R_1 g_m + L_4 + s^3 \left( C_1 C_3 L_3 L_4 R_1 + 2 C_1 C_4 L_3 L_4 R_1 \right) + s^2 \left( C_3 L_3 L_4 R_1 g_m + C_3 L_3 L_4 + 2 C_4 L_3 L_4 R_1 g_m + 2 C_4 L_3 L_4 \right) + s \left( 2 C_1 L_3 R_1 + C_1 L_4 R_1 \right)}$$

**10.304  INVALID-ORDER-304** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_3 L_4 R_1 g_m s^3 + C_4 L_3 R_1 R_4 g_m s^2 + L_3 R_1 g_m s}{C_1 C_3 C_4 L_3 L_4 R_1 s^5 + R_1 g_m + s^4 \left( C_1 C_3 C_4 L_3 R_1 R_4 + C_3 C_4 L_3 L_4 R_1 g_m + C_3 C_4 L_3 L_4 \right) + s^3 \left( C_1 C_3 L_3 R_1 + 2 C_1 C_4 L_3 R_1 + C_1 C_4 L_4 R_1 + C_3 C_4 L_3 R_1 R_4 g_m + C_3 C_4 L_3 R_4 \right) + s^2 \left( C_1 C_4 R_1 R_4 + C_3 L_3 R_1 g_m + C_3 L_3 + 2 C_4 L_3 R_1 g_m + 2 C_4 L_3 + C_4 L_4 R_1 g_m + C_4 L_4 \right) + s \left( C_1 R_1 + \cdots \right)}$$

**10.305  INVALID-ORDER-305** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_3 L_4 R_1 R_4 g_m s}{2 L_3 R_1 R_4 g_m + 2 L_3 R_4 + L_4 R_1 R_4 g_m + L_4 R_4 + s^3 \left( C_1 C_3 L_3 L_4 R_1 R_4 + 2 C_1 C_4 L_3 L_4 R_1 R_4 \right) + s^2 \left( 2 C_1 L_3 L_4 R_1 + C_3 L_3 L_4 R_1 R_4 g_m + C_3 L_3 L_4 R_4 + 2 C_4 L_3 L_4 R_1 R_4 g_m + 2 C_4 L_3 L_4 R_4 \right) + s \left( 2 C_1 L_3 R_1 R_4 + C_1 L_4 R_1 R_4 + 2 L_3 L_4 R_1 g_m + 2 L_3 L_4 \right)}$$

**10.306  INVALID-ORDER-306** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_3 L_4 R_1 R_4 g_m s^3 + L_3 L_4 R_1 g_m s^2 + L_3 R_1 R_4 g_m s}{C_1 C_3 C_4 L_3 L_4 R_1 R_4 s^5 + R_1 R_4 g_m + R_4 + s^4 \left( C_1 C_3 L_3 L_4 R_1 + 2 C_1 C_4 L_3 L_4 R_1 + C_3 C_4 L_3 L_4 R_1 R_4 g_m + C_3 C_4 L_3 L_4 R_4 \right) + s^3 \left( C_1 C_3 L_3 R_1 R_4 + C_1 C_4 L_4 R_1 R_4 + C_3 L_3 L_4 R_1 g_m + C_3 L_3 L_4 + 2 C_4 L_3 L_4 R_1 g_m + 2 C_4 L_3 L_4 \right) + s^2 \left( 2 C_1 L_3 R_1 + C_1 L_4 R_1 + C_3 L_3 R_1 R_4 g_m + C_3 L_3 \cdots \right)}$$

**10.307  INVALID-ORDER-307** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{R_4 \left( C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_3 L_4 R_1 R_4 g_m s^3 + L_3 R_1 R_4 g_m s}{C_1 C_3 C_4 L_3 L_4 R_1 R_4 s^5 + R_1 R_4 g_m + R_4 + s^4 \left( 2 C_1 C_4 L_3 L_4 R_1 + C_3 C_4 L_3 L_4 R_1 R_4 g_m + C_3 C_4 L_3 L_4 R_4 \right) + s^3 \left( C_1 C_3 L_3 R_1 R_4 + 2 C_1 C_4 L_3 R_1 R_4 + C_1 C_4 L_4 R_1 R_4 + 2 C_4 L_3 L_4 R_1 g_m + 2 C_4 L_3 L_4 \right) + s^2 \left( 2 C_1 L_3 R_1 + C_3 L_3 R_1 R_4 g_m + C_3 L_3 R_4 + 2 C_4 L_3 R_1 R_4 g_m + 2 C_4 L_3 R_4 + C_4 \cdots \right)}$$

**10.308  INVALID-ORDER-308** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_3 R_1 R_4 g_m s^2 + C_3 R_1 R_3 R_4 g_m s + R_1 R_4 g_m}{2 C_1 C_3 L_3 R_1 s^3 + 2 R_1 g_m + s^2 \left( 2 C_1 C_3 R_1 R_3 + C_1 C_3 R_1 R_4 + 2 C_3 L_3 R_1 g_m + 2 C_3 L_3 \right) + s \left( 2 C_1 R_1 + 2 C_3 R_1 R_3 g_m + C_3 R_1 R_4 g_m + 2 C_3 R_3 + C_3 R_4 \right) + 2}$$

**10.309  INVALID-ORDER-309** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_3 R_1 g_m s^2 + C_3 R_1 R_3 g_m s + R_1 g_m}{2 C_1 C_3 C_4 L_3 R_1 s^4 + s^3 \left( 2 C_1 C_3 C_4 R_1 R_3 + 2 C_3 C_4 L_3 R_1 g_m + 2 C_3 C_4 L_3 \right) + s^2 \left( C_1 C_3 R_1 + 2 C_1 C_4 R_1 + 2 C_3 C_4 R_1 R_3 g_m + 2 C_3 C_4 R_3 \right) + s \left( C_3 R_1 g_m + C_3 + 2 C_4 R_1 g_m + 2 C_4 \right)}$$

**10.310  INVALID-ORDER-310** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_3 R_1 R_4 g_m s^2 + C_3 R_1 R_3 R_4 g_m s + R_1 R_4 g_m}{2 C_1 C_3 C_4 L_3 R_1 R_4 s^4 + 2 R_1 g_m + s^3 \left( 2 C_1 C_3 C_4 R_1 R_3 R_4 + 2 C_1 C_3 L_3 R_1 + 2 C_3 C_4 L_3 R_1 R_4 g_m + 2 C_3 C_4 L_3 R_4 \right) + s^2 \left( 2 C_1 C_3 R_1 R_3 + C_1 C_3 R_1 R_4 + 2 C_1 C_4 R_1 R_4 + 2 C_3 C_4 R_1 R_3 R_4 g_m + 2 C_3 C_4 R_3 R_4 + 2 C_3 L_3 R_1 g_m + 2 C_3 L_3 \right) + s \left( 2 C_1 R_1 + 2 C_3 R_1 R_3 g_m + C_3 R_1 R_4 g_m + 2 C_3 \cdots \right)}$$

**10.311  INVALID-ORDER-311** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_3 R_1 R_4 g_m s^3 + R_1 g_m + s^2 (C_3 C_4 R_1 R_3 R_4 g_m + C_3 L_3 R_1 g_m) + s (C_3 R_1 R_3 g_m + C_4 R_1 R_4 g_m)}{2 C_1 C_3 C_4 L_3 R_1 s^4 + s^3 (2 C_1 C_3 C_4 R_1 R_3 + C_1 C_3 C_4 R_1 R_4 + 2 C_3 C_4 L_3 R_1 g_m + 2 C_3 C_4 L_3) + s^2 (C_1 C_3 R_1 + 2 C_1 C_4 R_1 + 2 C_3 C_4 R_1 R_3 g_m + C_3 C_4 R_1 R_4 g_m + 2 C_3 C_4 R_3 + C_3 C_4 R_4) + s (C_3 R_1 g_m + C_3 + 2 C_4 R_1 g_m + 2 C_4)}$$

**10.312  INVALID-ORDER-312** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_3 L_4 R_1 g_m s^4 + C_3 C_4 L_4 R_1 R_3 g_m s^3 + C_3 R_1 R_3 g_m s + R_1 g_m + s^2 (C_3 L_3 R_1 g_m + C_4 L_4 R_1 g_m)}{s^4 (2 C_1 C_3 C_4 L_3 R_1 + C_1 C_3 C_4 L_4 R_1) + s^3 (2 C_1 C_3 C_4 R_1 R_3 + 2 C_3 C_4 L_3 R_1 g_m + 2 C_3 C_4 L_3 + C_3 C_4 L_4 R_1 g_m + C_3 C_4 L_4) + s^2 (C_1 C_3 R_1 + 2 C_1 C_4 R_1 + 2 C_3 C_4 R_1 R_3 g_m + 2 C_3 C_4 R_3) + s (C_3 R_1 g_m + C_3 + 2 C_4 R_1 g_m + 2 C_4)}$$

**10.313  INVALID-ORDER-313** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_3 L_4 R_1 g_m s^3 + C_3 L_4 R_1 R_3 g_m s^2 + L_4 R_1 g_m s}{2 C_1 C_3 C_4 L_3 L_4 R_1 s^5 + 2 R_1 g_m + s^4 (2 C_1 C_3 C_4 L_4 R_1 R_3 + 2 C_3 C_4 L_3 L_4 R_1 g_m + 2 C_3 C_4 L_3 L_4) + s^3 (2 C_1 C_3 L_3 R_1 + C_1 C_3 L_4 R_1 + 2 C_1 C_4 L_4 R_1 + 2 C_3 C_4 L_4 R_1 R_3 g_m + 2 C_3 C_4 L_4 R_3) + s^2 (2 C_1 C_3 R_1 R_3 + 2 C_3 L_3 R_1 g_m + 2 C_3 L_3 + C_3 L_4 R_1 g_m + C_3 L_4 + 2 C_4 L_4 R_1 g_m + 2 C_4 L_4}$$

**10.314  INVALID-ORDER-314** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_3 L_4 R_1 g_m s^4 + R_1 g_m + s^3 (C_3 C_4 L_3 R_1 R_4 g_m + C_3 C_4 L_4 R_1 R_3 g_m) + s^2 (C_3 C_4 R_1 R_3 R_4 g_m + C_3 L_3 R_1 g_m + C_4 L_4 R_1 g_m) + s (C_3 R_1 R_3 g_m + C_4 R_1 R_4 g_m)}{s^4 (2 C_1 C_3 C_4 L_3 R_1 + C_1 C_3 C_4 L_4 R_1) + s^3 (2 C_1 C_3 C_4 R_1 R_3 + C_1 C_3 C_4 R_1 R_4 + 2 C_3 C_4 L_3 R_1 g_m + 2 C_3 C_4 L_3 + C_3 C_4 L_4 R_1 g_m + C_3 C_4 L_4) + s^2 (C_1 C_3 R_1 + 2 C_1 C_4 R_1 + 2 C_3 C_4 R_1 R_3 g_m + C_3 C_4 R_1 R_4 g_m + 2 C_3 C_4 R_3 + C_3 C_4 R_4) + s (C_3 R_1 g_m + C_3 + 2 C_4 R_1 g_m + 2 C_4)}$$

**10.315  INVALID-ORDER-315** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_3 L_4 R_1 R_4 g_m s^3 + C_3 L_4 R_1 R_3 R_4 g_m s^2 + L_4 \dots}{2 C_1 C_3 C_4 L_3 L_4 R_1 R_4 s^5 + 2 R_1 R_4 g_m + 2 R_4 + s^4 (2 C_1 C_3 C_4 L_4 R_1 R_3 R_4 + 2 C_1 C_3 L_3 L_4 R_1 + 2 C_3 C_4 L_3 L_4 R_1 R_4 g_m + 2 C_3 C_4 L_3 L_4 R_4) + s^3 (2 C_1 C_3 L_3 R_1 R_4 + 2 C_1 C_3 L_4 R_1 R_3 + C_1 C_3 L_4 R_1 R_4 + 2 C_1 C_4 L_4 R_1 R_4 + 2 C_3 C_4 L_4 R_1 R_3 R_4 g_m + 2 C_3 C_4 L_4 R_3 R_4 + 2 C_3 L_3 L_4 R_1 g_m + \dots}$$

**10.316  INVALID-ORDER-316** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_3 L_4 R_1 R_4 g_m s^4 + R_1 R_4 g_m + s^3 (C_3 C_4 L_4 R_1 R_3 R_4 g_m + C_3 L_3 L_4 R_1 g_m) + s^2 (C_3 L_3 R_1 R_4 g_m + C_3 L_4 R_1 R_3 g_m + C_4 L_4 R_1 R_4 g_m) + s (C_3 R_1 R_3 R_4 \dots}{2 C_1 C_3 C_4 L_3 L_4 R_1 R_4 s^5 + 2 R_1 g_m + s^4 (2 C_1 C_3 C_4 L_4 R_1 R_3 + C_1 C_3 C_4 L_4 R_1 R_4 + 2 C_3 C_4 L_3 L_4 R_1 g_m + 2 C_3 C_4 L_3 L_4) + s^3 (2 C_1 C_3 L_3 R_1 + C_1 C_3 L_4 R_1 + 2 C_1 C_4 L_4 R_1 + 2 C_3 C_4 L_4 R_1 R_3 g_m + C_3 C_4 L_4 R_1 R_4 g_m + 2 C_3 C_4 L_4 R_3 + C_3 C_4 L_4 R_4) + s^2 (2 C_1 C_3 R_1 R_3 + C_1 C_3 R_1 R_4 + 2 C_3 \dots}$$

**10.317  INVALID-ORDER-317** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{R_4 \left( C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_3 L_4 R_1 R_4 g_m s^4 + C_3 C_4 L_4 R_1 R_3 R_4 g_m s^3 + C_3 R_1 R_3 R_4 g_m s \dots}{2 C_1 C_3 C_4 L_3 L_4 R_1 R_4 s^5 + 2 R_1 g_m + s^4 (2 C_1 C_3 C_4 L_3 R_1 R_4 + 2 C_1 C_3 C_4 L_4 R_1 R_3 + C_1 C_3 C_4 L_4 R_1 R_4 + 2 C_3 C_4 L_3 L_4 R_1 g_m + 2 C_3 C_4 L_3 L_4) + s^3 (2 C_1 C_3 C_4 R_1 R_3 R_4 + 2 C_1 C_3 L_3 R_1 + 2 C_1 C_4 L_4 R_1 + 2 C_3 C_4 L_3 R_1 R_4 g_m + 2 C_3 C_4 L_3 R_4 + 2 C_3 C_4 L_4 R_1 R_3 g_m + C_3 C_4 L_4 R_1 R_4 g_m + 2 \dots}$$

**10.318  INVALID-ORDER-318** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_3 R_1 R_3 R_4 g_m s}{C_1 C_3 L_3 R_1 R_3 R_4 s^3 + R_1 R_3 R_4 g_m + R_3 R_4 + s^2 (2 C_1 L_3 R_1 R_3 + C_1 L_3 R_1 R_4 + C_3 L_3 R_1 R_3 R_4 g_m + C_3 L_3 R_3 R_4) + s (C_1 R_1 R_3 R_4 + 2 L_3 R_1 R_3 g_m + L_3 R_1 R_4 g_m + 2 L_3 R_3 + L_3 R_4)}$$

**10.319  INVALID-ORDER-319** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_3 R_1 R_3 g_m s}{R_1 R_3 g_m + R_3 + s^3 (C_1 C_3 L_3 R_1 R_3 + 2 C_1 C_4 L_3 R_1 R_3) + s^2 (C_1 L_3 R_1 + C_3 L_3 R_1 R_3 g_m + C_3 L_3 R_3 + 2 C_4 L_3 R_1 R_3 g_m + 2 C_4 L_3 R_3) + s (C_1 R_1 R_3 + L_3 R_1 g_m + L_3)}$$

**10.320  INVALID-ORDER-320** $Z(s) = \left( \frac{R_1}{C_1 R_1 s + 1}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_3 R_1 R_3 R_4 g_m s}{R_1 R_3 R_4 g_m + R_3 R_4 + s^3 (C_1 C_3 L_3 R_1 R_3 R_4 + 2 C_1 C_4 L_3 R_1 R_3 R_4) + s^2 (2 C_1 L_3 R_1 R_3 + C_1 L_3 R_1 R_4 + C_3 L_3 R_1 R_3 R_4 g_m + C_3 L_3 R_3 R_4 + 2 C_4 L_3 R_1 R_3 R_4 g_m + 2 C_4 L_3 R_3 R_4) + s (C_1 R_1 R_3 R_4 + 2 L_3 R_1 R_3 g_m + L_3 R_1 R_4 g_m + 2 L_3 R_3 + L_3 R_4)}$$

**10.321 INVALID-ORDER-321** $Z(s) = \left( \frac{R_1}{C_1R_1s+1}, \ \infty, \ \frac{L_3R_3s}{C_3L_3R_3s^2+L_3s+R_3}, \ R_4 + \frac{1}{C_4s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_4L_3R_1R_3R_4g_ms^2 + L_3R_1R_3g_ms}{C_1C_3C_4L_3R_1R_3R_4s^4 + R_1R_3g_m + R_3 + s^3\left(C_1C_3L_3R_1R_3 + 2C_1C_4L_3R_1R_3 + C_1C_4L_3R_1R_4 + C_3C_4L_3R_1R_3R_4g_m + C_3C_4L_3R_3R_4\right) + s^2\left(C_1C_4R_1R_3R_4 + C_1L_3R_1 + C_3L_3R_1R_3g_m + C_3L_3R_3 + 2C_4L_3R_1R_3g_m + C_4L_3R_1R_4g_m + 2C_4L_3R_3 + C_4L_3R_4\right) + s\left(C_1R_1R\ldots\right)}$

**10.322 INVALID-ORDER-322** $Z(s) = \left( \frac{R_1}{C_1R_1s+1}, \ \infty, \ \frac{L_3R_3s}{C_3L_3R_3s^2+L_3s+R_3}, \ L_4s + \frac{1}{C_4s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_4L_3L_4R_1R_3g_ms^3 + L_3R_1R_3g_ms}{C_1C_3C_4L_3L_4R_1R_3s^5 + R_1R_3g_m + R_3 + s^4\left(C_1C_4L_3L_4R_1 + C_3C_4L_3L_4R_1R_3g_m + C_3C_4L_3L_4R_3\right) + s^3\left(C_1C_3L_3R_1R_3 + 2C_1C_4L_3R_1R_3 + C_1C_4L_4R_1R_3 + C_4L_3L_4R_1g_m + C_4L_3L_4\right) + s^2\left(C_1L_3R_1 + C_3L_3R_1R_3g_m + C_3L_3R_3 + 2C_4L_3R_1R_3g_m + 2C_4L_3R_3 + C_4L_4R\ldots\right)}$

**10.323 INVALID-ORDER-323** $Z(s) = \left( \frac{R_1}{C_1R_1s+1}, \ \infty, \ \frac{L_3R_3s}{C_3L_3R_3s^2+L_3s+R_3}, \ \frac{L_4s}{C_4L_4s^2+1}, \ \infty, \ \infty \right)$

$H(s) = \frac{L_3L_4R_1R_3g_ms}{2L_3R_1R_3g_m + 2L_3R_3 + L_4R_1R_3g_m + L_4R_3 + s^3\left(C_1C_3L_3L_4R_1R_3 + 2C_1C_4L_3L_4R_1R_3\right) + s^2\left(C_1L_3L_4R_1 + C_3L_3L_4R_1R_3g_m + C_3L_3L_4R_3 + 2C_4L_3L_4R_1R_3g_m + 2C_4L_3L_4R_3\right) + s\left(2C_1L_3R_1R_3 + C_1L_4R_1R_3 + L_3L_4R_1g_m + L_3L_4\right)}$

**10.324 INVALID-ORDER-324** $Z(s) = \left( \frac{R_1}{C_1R_1s+1}, \ \infty, \ \frac{L_3R_3s}{C_3L_3R_3s^2+L_3s+R_3}, \ L_4s + R_4 + \frac{1}{C_4s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_4L_3L_4R_1R_3g_ms^3 + C_4L_3R_1R_3R_4g_ms^2 + L_3R_1R_3g_ms}{C_1C_3C_4L_3L_4R_1R_3s^5 + R_1R_3g_m + R_3 + s^4\left(C_1C_3C_4L_3R_1R_3R_4 + C_1C_4L_3L_4R_1 + C_3C_4L_3L_4R_1R_3g_m + C_3C_4L_3L_4R_3\right) + s^3\left(C_1C_3L_3R_1R_3 + 2C_1C_4L_3R_1R_3 + C_1C_4L_3R_1R_4 + C_1C_4L_4R_1R_3 + C_3C_4L_3R_1R_3R_4g_m + C_3C_4L_3R_3R_4 + C_4L_3L_4R_1g_m + C_4L_3L_4\right) + s^2\ldots}$

**10.325 INVALID-ORDER-325** $Z(s) = \left( \frac{R_1}{C_1R_1s+1}, \ \infty, \ \frac{L_3R_3s}{C_3L_3R_3s^2+L_3s+R_3}, \ \frac{L_4R_4s}{C_4L_4R_4s^2+L_4s+R_4}, \ \infty, \ \infty \right)$

$H(s) = \frac{L_3L_4R_1R_3R_4g_ms}{2L_3R_1R_3R_4g_m + 2L_3R_3R_4 + L_4R_1R_3R_4g_m + L_4R_3R_4 + s^3\left(C_1C_3L_3L_4R_1R_3R_4 + 2C_1C_4L_3L_4R_1R_3R_4\right) + s^2\left(2C_1L_3L_4R_1R_3 + C_1L_3L_4R_1R_4 + C_3L_3L_4R_1R_3R_4g_m + C_3L_3L_4R_3R_4 + 2C_4L_3L_4R_1R_3R_4g_m + 2C_4L_3L_4R_3R_4\right) + s\left(2C_1L_3R_1R_3R_4 + C_1L_4R_1R_3R_4 + \ldots\right)}$

**10.326 INVALID-ORDER-326** $Z(s) = \left( \frac{R_1}{C_1R_1s+1}, \ \infty, \ \frac{L_3R_3s}{C_3L_3R_3s^2+L_3s+R_3}, \ \frac{C_4L_4R_4s^2+L_4s+R_4}{C_4L_4s^2+1}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_4L_3L_4R_1R_3R_4g_ms^3 + \ldots}{C_1C_3C_4L_3L_4R_1R_3R_4s^5 + R_1R_3R_4g_m + R_3R_4 + s^4\left(C_1C_3L_3L_4R_1R_3 + 2C_1C_4L_3L_4R_1R_3 + C_1C_4L_3L_4R_1R_4 + C_3C_4L_3L_4R_1R_3R_4g_m + C_3C_4L_3L_4R_3R_4\right) + s^3\left(C_1C_3L_3R_1R_3R_4 + C_1C_4L_4R_1R_3R_4 + C_1L_3L_4R_1 + C_3L_3L_4R_1R_3g_m + C_3L_3L_4R_3 + 2C_4L_3L_4R_1R_3g_m + \ldots\right)}$

**10.327 INVALID-ORDER-327** $Z(s) = \left( \frac{R_1}{C_1R_1s+1}, \ \infty, \ \frac{L_3R_3s}{C_3L_3R_3s^2+L_3s+R_3}, \ \frac{R_4\left(C_4L_4s^2+1\right)}{C_4L_4s^2+C_4R_4s+1}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_4L_3L_4R_1R_3R_4g_ms^3 + L_3R_1R_3R_4g_ms}{C_1C_3C_4L_3L_4R_1R_3R_4s^5 + R_1R_3R_4g_m + R_3R_4 + s^4\left(2C_1C_4L_3L_4R_1R_3 + C_1C_4L_3L_4R_1R_4 + C_3C_4L_3L_4R_1R_3R_4g_m + C_3C_4L_3L_4R_3R_4\right) + s^3\left(C_1C_3L_3R_1R_3R_4 + 2C_1C_4L_3R_1R_3R_4 + C_1C_4L_4R_1R_3R_4 + 2C_4L_3L_4R_1R_3g_m + C_4L_3L_4R_1R_4g_m + 2C_4L_3L_4R_3 + C_4L_3L\ldots\right)}$

**10.328 INVALID-ORDER-328** $Z(s) = \left( \frac{R_1}{C_1R_1s+1}, \ \infty, \ \frac{C_3L_3R_3s^2+L_3s+R_3}{C_3L_3s^2+1}, \ R_4, \ \infty, \ \infty \right)$

$H(s) = \frac{C_3L_3R_1R_3R_4g_ms^2 + L_3R_1R_4g_ms + R_1R_3R_4g_m}{2R_1R_3g_m + R_1R_4g_m + 2R_3 + R_4 + s^3\left(2C_1C_3L_3R_1R_3 + C_1C_3L_3R_1R_4\right) + s^2\left(2C_1L_3R_1 + 2C_3L_3R_1R_3g_m + C_3L_3R_1R_4g_m + 2C_3L_3R_3 + C_3L_3R_4\right) + s\left(2C_1R_1R_3 + C_1R_1R_4 + 2L_3R_1g_m + 2L_3\right)}$

**10.329 INVALID-ORDER-329** $Z(s) = \left( \frac{R_1}{C_1R_1s+1}, \ \infty, \ \frac{C_3L_3R_3s^2+L_3s+R_3}{C_3L_3s^2+1}, \ \frac{1}{C_4s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_3L_3R_1R_3g_ms^2 + L_3R_1g_ms + R_1R_3g_m}{2C_1C_3C_4L_3R_1R_3s^4 + R_1g_m + s^3\left(C_1C_3L_3R_1 + 2C_1C_4L_3R_1 + 2C_3C_4L_3R_1R_3g_m + 2C_3C_4L_3R_3\right) + s^2\left(2C_1C_4R_1R_3 + C_3L_3R_1g_m + C_3L_3 + 2C_4L_3R_1g_m + 2C_4L_3\right) + s\left(C_1R_1 + 2C_4R_1R_3g_m + 2C_4R_3\right) + 1}$

**10.330 INVALID-ORDER-330** $Z(s) = \left( \frac{R_1}{C_1R_1s+1}, \ \infty, \ \frac{C_3L_3R_3s^2+L_3s+R_3}{C_3L_3s^2+1}, \ \frac{R_4}{C_4R_4s+1}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_3L_3R_1R_3R_4g_ms^2 + L_3R_1R_4g_ms + R_1R_3R_4g_m}{2C_1C_3C_4L_3R_1R_3R_4s^4 + 2R_1R_3g_m + R_1R_4g_m + 2R_3 + R_4 + s^3\left(2C_1C_3L_3R_1R_3 + C_1C_3L_3R_1R_4 + 2C_1C_4L_3R_1R_4 + 2C_3C_4L_3R_1R_3R_4g_m + 2C_3C_4L_3R_3R_4\right) + s^2\left(2C_1C_4R_1R_3R_4 + 2C_1L_3R_1 + 2C_3L_3R_1R_3g_m + C_3L_3R_1R_4g_m + 2C_3L_3R_3 + C_3L_3R_4 + 2C_4L_3R_1R\ldots\right)}$

**10.331  INVALID-ORDER-331** $Z(s) = \left( \frac{R_1}{C_1R_1s+1}, \ \infty, \ \frac{C_3L_3R_3s^2+L_3s+R_3}{C_3L_3s^2+1}, \ R_4+\frac{1}{C_4s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3C_4L_3R_1R_3R_4g_ms^3 + R_1R_3g_m + s^2\left(C_3L_3R_1R_3g_m+C_4L_3R_1R_4g_m\right) + s\left(C_4R_1R_3R_4g_m+L_3R_1g_m\right)}{R_1g_m + s^4\left(2C_1C_3C_4L_3R_1R_3+C_1C_3C_4L_3R_1R_4\right) + s^3\left(C_1C_3L_3R_1+2C_1C_4L_3R_1+2C_3C_4L_3R_1R_3g_m+C_3C_4L_3R_1R_4g_m+2C_3C_4L_3R_3+C_3C_4L_3R_4\right) + s^2\left(2C_1C_4R_1R_3+C_1C_4R_1R_4+C_3L_3R_1g_m+C_3L_3+2C_4L_3R_1g_m+2C_4L_3\right) + s\left(C_1R_1+2C_4R_1R_3g_m+C\cdots\right)}$$

**10.332  INVALID-ORDER-332** $Z(s) = \left( \frac{R_1}{C_1R_1s+1}, \ \infty, \ \frac{C_3L_3R_3s^2+L_3s+R_3}{C_3L_3s^2+1}, \ L_4s+\frac{1}{C_4s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3C_4L_3L_4R_1R_3g_ms^4 + C_4L_3L_4R_1g_ms^3 + L_3R_1g_ms + R_1R_3g_m + s^2\left(C_3L_3R_1R_3g_m+C_4L_4R_1R_3g_m\right)}{C_1C_3C_4L_3L_4R_1s^5 + R_1g_m + s^4\left(2C_1C_3C_4L_3R_1R_3+C_3C_4L_3L_4R_1g_m+C_3C_4L_3L_4\right) + s^3\left(C_1C_3L_3R_1+2C_1C_4L_3R_1+C_1C_4L_4R_1+2C_3C_4L_3R_1R_3g_m+2C_3C_4L_3R_3\right) + s^2\left(2C_1C_4R_1R_3+C_3L_3R_1g_m+C_3L_3+2C_4L_3R_1g_m+2C_4L_3+C_4L_4R_1g_m+C_4L_4\right) + s\left(C\cdots\right)}$$

**10.333  INVALID-ORDER-333** $Z(s) = \left( \frac{R_1}{C_1R_1s+1}, \ \infty, \ \frac{C_3L_3R_3s^2+L_3s+R_3}{C_3L_3s^2+1}, \ \frac{L_4s}{C_4L_4s^2+1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3L_3L_4R_1R_3g_ms^3 + L_3L_4R_1g_ms^2 + L_4R_1R_3g_ms}{2C_1C_3C_4L_3L_4R_1R_3s^5 + 2R_1R_3g_m + 2R_3 + s^4\left(C_1C_3L_3L_4R_1+2C_1C_4L_3L_4R_1+2C_3C_4L_3L_4R_1R_3g_m+2C_3C_4L_3L_4R_3\right) + s^3\left(2C_1C_3L_3R_1R_3+2C_1C_4L_4R_1R_3+C_3L_3L_4R_1g_m+C_3L_3L_4+2C_4L_3L_4R_1g_m+2C_4L_3L_4\right) + s^2\left(2C_1L_3R_1+C_1L_4R_1+2C_3L_3R_1R_3g_m+\cdots\right)}$$

**10.334  INVALID-ORDER-334** $Z(s) = \left( \frac{R_1}{C_1R_1s+1}, \ \infty, \ \frac{C_3L_3R_3s^2+L_3s+R_3}{C_3L_3s^2+1}, \ L_4s+R_4+\frac{1}{C_4s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3C_4L_3L_4R_1R_3g_ms^4 + R_1R_3g_m + s^3\left(C_3C_4L_3R_1R_3R_4g_m+C_4L_3L_4R_1g_m\right) + s^2\left(C_3L_3R_1R_3g_m+C_4L_3R_1R_4g_m+C_4L_4R_1R_3g_m\right) + s\left(C_4R_1R_3R_4g_m+\cdots\right)}{C_1C_3C_4L_3L_4R_1s^5 + R_1g_m + s^4\left(2C_1C_3C_4L_3R_1R_3+C_1C_3C_4L_3R_1R_4+C_3C_4L_3L_4R_1g_m+C_3C_4L_3L_4\right) + s^3\left(C_1C_3L_3R_1+2C_1C_4L_3R_1+C_1C_4L_4R_1+2C_3C_4L_3R_1R_3g_m+C_3C_4L_3R_1R_4g_m+2C_3C_4L_3R_3+C_3C_4L_3R_4\right) + s^2\left(2C_1C_4R_1R_3+C_1C_4R_1R_4+C_3L_3R\cdots\right)}$$

**10.335  INVALID-ORDER-335** $Z(s) = \left( \frac{R_1}{C_1R_1s+1}, \ \infty, \ \frac{C_3L_3R_3s^2+L_3s+R_3}{C_3L_3s^2+1}, \ \frac{L_4R_4s}{C_4L_4R_4s^2+L_4s+R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3L_3L_4R_1\cdots}{2C_1C_3C_4L_3L_4R_1R_3R_4s^5 + 2R_1R_3R_4g_m + 2R_3R_4 + s^4\left(2C_1C_3L_3L_4R_1R_3+C_1C_3L_3L_4R_1R_4+2C_1C_4L_4R_1R_4+2C_3C_4L_3L_4R_1R_3R_4g_m+2C_3C_4L_3L_4R_3R_4\right) + s^3\left(2C_1C_3L_3R_1R_3R_4+2C_1C_4L_4R_1R_3R_4+2C_1L_3L_4R_1+2C_3L_3L_4R_1R_3g_m+C_3L_3L_4R_1R_4g_m+\cdots\right)}$$

**10.336  INVALID-ORDER-336** $Z(s) = \left( \frac{R_1}{C_1R_1s+1}, \ \infty, \ \frac{C_3L_3R_3s^2+L_3s+R_3}{C_3L_3s^2+1}, \ \frac{C_4L_4R_4s^2+L_4s+R_4}{C_4L_4s^2+1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3C_4L_3L_4R_1R_3R_4g_ms^4 + R_1R_3R_4g_m + s^3\left(C_3L_3L_4R_1R_3g_m+C_4L_3L_4R_1R_4g\cdots\right)}{2R_1R_3g_m + R_1R_4g_m + 2R_3 + R_4 + s^5\left(2C_1C_3C_4L_3L_4R_1R_3+C_1C_3C_4L_3L_4R_1R_4\right) + s^4\left(C_1C_3L_3L_4R_1+2C_1C_4L_3L_4R_1+2C_3C_4L_3L_4R_1R_3g_m+C_3C_4L_3L_4R_1R_4g_m+2C_3C_4L_3L_4R_3+C_3C_4L_3L_4R_4\right) + s^3\left(2C_1C_3L_3R_1R_3+C_1C_3L_3R_1R_4+2C_1C_4L_4R_1R_3+C_1C\cdots\right)}$$

**10.337  INVALID-ORDER-337** $Z(s) = \left( \frac{R_1}{C_1R_1s+1}, \ \infty, \ \frac{C_3L_3R_3s^2+L_3s+R_3}{C_3L_3s^2+1}, \ \frac{R_4\left(C_4L_4s^2+1\right)}{C_4L_4s^2+C_4R_4s+1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3C_4L_3\cdots}{2R_1R_3g_m + R_1R_4g_m + 2R_3 + R_4 + s^5\left(2C_1C_3C_4L_3L_4R_1R_3+C_1C_3C_4L_3L_4R_1R_4\right) + s^4\left(2C_1C_3C_4L_3R_1R_3R_4+2C_1C_4L_4R_1+2C_3C_4L_3L_4R_1R_3g_m+C_3C_4L_3L_4R_1R_4g_m+2C_3C_4L_3L_4R_3+C_3C_4L_3L_4R_4\right) + s^3\left(2C_1C_3L_3R_1R_3+C_1C_3L_3R_1R_4+2C_1C_4L_3R_1R\cdots\right)}$$

**10.338  INVALID-ORDER-338** $Z(s) = \left( \frac{R_1}{C_1R_1s+1}, \ \infty, \ \frac{R_3\left(C_3L_3s^2+1\right)}{C_3L_3s^2+C_3R_3s+1}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3L_3R_1R_3R_4g_ms^2 + R_1R_3R_4g_m}{2R_1R_3g_m + R_1R_4g_m + 2R_3 + R_4 + s^3\left(2C_1C_3L_3R_1R_3+C_1C_3L_3R_1R_4\right) + s^2\left(C_1C_3R_1R_3R_4+2C_3L_3R_1R_3g_m+C_3L_3R_1R_4g_m+2C_3L_3R_3+C_3L_3R_4\right) + s\left(2C_1R_1R_3+C_1R_1R_4+C_3R_1R_3R_4g_m+C_3R_3R_4\right)}$$

**10.339  INVALID-ORDER-339** $Z(s) = \left( \frac{R_1}{C_1R_1s+1}, \ \infty, \ \frac{R_3\left(C_3L_3s^2+1\right)}{C_3L_3s^2+C_3R_3s+1}, \ \frac{1}{C_4s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3L_3R_1R_3g_ms^2 + R_1R_3g_m}{2C_1C_3C_4L_3R_1R_3s^4 + R_1g_m + s^3\left(C_1C_3L_3R_1+2C_3C_4L_3R_1R_3g_m+2C_3C_4L_3R_3\right) + s^2\left(C_1C_3R_1R_3+2C_1C_4R_1R_3+C_3L_3R_1g_m+C_3L_3\right) + s\left(C_1R_1+C_3R_1R_3g_m+C_3R_3+2C_4R_1R_3g_m+2C_4R_3\right) + 1}$$

**10.340** **INVALID-ORDER-340** $Z(s) = \left( \frac{R_1}{C_1R_1s+1},\ \infty,\ \frac{R_3\left(C_3L_3s^2+1\right)}{C_3L_3s^2+C_3R_3s+1},\ \frac{R_4}{C_4R_4s+1},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_3L_3R_1R_3R_4g_ms^2 + R_1R_3R_4g_m}{2C_1C_3C_4L_3R_1R_3R_4s^4 + 2R_1R_3g_m + R_1R_4g_m + 2R_3 + R_4 + s^3\left(2C_1C_3L_3R_1R_3 + C_1C_3L_3R_1R_4 + 2C_3C_4L_3R_1R_3R_4g_m + 2C_3C_4L_3R_3R_4\right) + s^2\left(C_1C_3R_1R_3R_4 + 2C_1C_4R_1R_3R_4 + 2C_3L_3R_1R_3g_m + C_3L_3R_1R_4g_m + 2C_3L_3R_3 + C_3L_3R_4\right) + s\left(2C_1R_1R_3 + C_1R_1R_4 \cdots \right)}$$

**10.341** **INVALID-ORDER-341** $Z(s) = \left( \frac{R_1}{C_1R_1s+1},\ \infty,\ \frac{R_3\left(C_3L_3s^2+1\right)}{C_3L_3s^2+C_3R_3s+1},\ R_4 + \frac{1}{C_4s},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_3C_4L_3R_1R_3R_4g_ms^3 + C_3L_3R_1R_3g_ms^2 + C_4R_1R_3R_4g_ms + R_1R_3g_m}{R_1g_m + s^4\left(2C_1C_3C_4L_3R_1R_3 + C_1C_3C_4L_3R_1R_4\right) + s^3\left(C_1C_3C_4R_1R_3R_4 + C_1C_3L_3R_1 + 2C_3C_4L_3R_1R_3g_m + C_3C_4L_3R_1R_4g_m + 2C_3C_4L_3R_3 + C_3C_4L_3R_4\right) + s^2\left(C_1C_3R_1R_3 + 2C_1C_4R_1R_3 + C_1C_4R_1R_4 + C_3C_4R_1R_3R_4g_m + C_3C_4R_3R_4 + C_3L_3R_1g_m + C_3L_3\right) + \cdots}$$

**10.342** **INVALID-ORDER-342** $Z(s) = \left( \frac{R_1}{C_1R_1s+1},\ \infty,\ \frac{R_3\left(C_3L_3s^2+1\right)}{C_3L_3s^2+C_3R_3s+1},\ L_4s + \frac{1}{C_4s},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_3C_4L_3L_4R_1R_3g_ms^4 + R_1R_3g_m + s^2\left(C_3L_3R_1R_3g_m + C_4L_4R_1R_3g_m\right)}{C_1C_3C_4L_3L_4R_1s^5 + R_1g_m + s^4\left(2C_1C_3C_4L_3R_1R_3 + C_1C_3C_4L_4R_1R_3 + C_3C_4L_3L_4R_1g_m + C_3C_4L_3L_4\right) + s^3\left(C_1C_3L_3R_1 + C_1C_4L_4R_1 + 2C_3C_4L_3R_1R_3g_m + 2C_3C_4L_3R_3 + C_3C_4L_4R_1R_3g_m + C_3C_4L_4R_3\right) + s^2\left(C_1C_3R_1R_3 + 2C_1C_4R_1R_3 + C_3L_3R_1g_m + C_3L_3 + \cdots\right)}$$

**10.343** **INVALID-ORDER-343** $Z(s) = \left( \frac{R_1}{C_1R_1s+1},\ \infty,\ \frac{R_3\left(C_3L_3s^2+1\right)}{C_3L_3s^2+C_3R_3s+1},\ \frac{L_4s}{C_4L_4s^2+1},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_3L_3L_4R_1R_3g_ms^3 + L_4R_1R_3g_ms}{2C_1C_3C_4L_3L_4R_1R_3s^5 + 2R_1R_3g_m + 2R_3 + s^4\left(C_1C_3L_3L_4R_1 + 2C_3C_4L_3L_4R_1R_3g_m + 2C_3C_4L_3L_4R_3\right) + s^3\left(2C_1C_3L_3R_1R_3 + C_1C_3L_4R_1R_3 + 2C_1C_4L_4R_1R_3 + C_3L_3L_4R_1g_m + C_3L_3L_4\right) + s^2\left(C_1L_4R_1 + 2C_3L_3R_1R_3g_m + 2C_3L_3R_3 + C_3L_4R_1R_3g_m + C_3L_4R_3 + \cdots\right)}$$

**10.344** **INVALID-ORDER-344** $Z(s) = \left( \frac{R_1}{C_1R_1s+1},\ \infty,\ \frac{R_3\left(C_3L_3s^2+1\right)}{C_3L_3s^2+C_3R_3s+1},\ L_4s + R_4 + \frac{1}{C_4s},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_3C_4L_3L_4R_1R_3g_ms^4 + C_3C_4L_3R_1R_3R_4g_ms^3 + C_4R_1R_3R_4g_ms + R_1R_3g_m}{C_1C_3C_4L_3L_4R_1s^5 + R_1g_m + s^4\left(2C_1C_3C_4L_3R_1R_3 + C_1C_3C_4L_3R_1R_4 + C_1C_3C_4L_4R_1R_3 + C_3C_4L_3L_4R_1g_m + C_3C_4L_3L_4\right) + s^3\left(C_1C_3C_4R_1R_3R_4 + C_1C_3L_3R_1 + C_1C_4L_4R_1 + 2C_3C_4L_3R_1R_3g_m + C_3C_4L_3R_1R_4g_m + 2C_3C_4L_3R_3 + C_3C_4L_3R_4 + C_3C_4L_4R_1R_3g_m + \cdots\right)}$$

**10.345** **INVALID-ORDER-345** $Z(s) = \left( \frac{R_1}{C_1R_1s+1},\ \infty,\ \frac{R_3\left(C_3L_3s^2+1\right)}{C_3L_3s^2+C_3R_3s+1},\ \frac{L_4R_4s}{C_4L_4R_4s^2+L_4s+R_4},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_3L_3L_4R_1R_3R_4g_ms^3 + L_4R_1R_3R_4g_ms}{2C_1C_3C_4L_3L_4R_1R_3R_4s^5 + 2R_1R_3R_4g_m + 2R_3R_4 + s^4\left(2C_1C_3L_3L_4R_1R_3 + C_1C_3L_3L_4R_1R_4 + 2C_3C_4L_3L_4R_1R_3R_4g_m + 2C_3C_4L_3L_4R_3R_4\right) + s^3\left(2C_1C_3L_3R_1R_3R_4 + C_1C_3L_4R_1R_3R_4 + 2C_1C_4L_4R_1R_3R_4 + 2C_3L_3L_4R_1R_3g_m + C_3L_3L_4R_1R_4g_m + 2C_3L_3L_4R_3 + \cdots\right)}$$

**10.346** **INVALID-ORDER-346** $Z(s) = \left( \frac{R_1}{C_1R_1s+1},\ \infty,\ \frac{R_3\left(C_3L_3s^2+1\right)}{C_3L_3s^2+C_3R_3s+1},\ \frac{C_4L_4R_4s^2+L_4s+R_4}{C_4L_4s^2+1},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_3C_4L_3L_4R_1R_3 \cdots}{2R_1R_3g_m + R_1R_4g_m + 2R_3 + R_4 + s^5\left(2C_1C_3C_4L_3L_4R_1R_3 + C_1C_3C_4L_3L_4R_1R_4\right) + s^4\left(C_1C_3C_4L_4R_1R_3R_4 + C_1C_3L_3L_4R_1 + 2C_3C_4L_3L_4R_1R_3g_m + C_3C_4L_3L_4R_1R_4g_m + 2C_3C_4L_3L_4R_3 + C_3C_4L_3L_4R_4\right) + s^3\left(2C_1C_3L_3R_1R_3 + C_1C_3L_3R_1R_4 + C_1C_3L_4R_1R_3 + \cdots\right)}$$

**10.347** **INVALID-ORDER-347** $Z(s) = \left( \frac{R_1}{C_1R_1s+1},\ \infty,\ \frac{R_3\left(C_3L_3s^2+1\right)}{C_3L_3s^2+C_3R_3s+1},\ \frac{R_4\left(C_4L_4s^2+1\right)}{C_4L_4s^2+C_4R_4s+1},\ \infty,\ \infty \right)$

$$H(s) = \frac{C \cdots}{2R_1R_3g_m + R_1R_4g_m + 2R_3 + R_4 + s^5\left(2C_1C_3C_4L_3L_4R_1R_3 + C_1C_3C_4L_3L_4R_1R_4\right) + s^4\left(2C_1C_3C_4L_3R_1R_3R_4 + C_1C_3C_4L_4R_1R_3R_4 + 2C_3C_4L_3L_4R_1R_3g_m + C_3C_4L_3L_4R_1R_4g_m + 2C_3C_4L_3L_4R_3 + C_3C_4L_3L_4R_4\right) + s^3\left(2C_1C_3L_3R_1R_3 + C_1C_3L_3R_1R_4 + 2C_1C_4 \cdots\right)}$$

**10.348** **INVALID-ORDER-348** $Z(s) = \left( R_1 + \frac{1}{C_1s},\ \infty,\ R_3,\ R_4,\ \infty,\ \infty \right)$

$$H(s) = \frac{C_1R_1R_3R_4g_ms + R_3R_4g_m}{2R_3g_m + R_4g_m + s\left(2C_1R_1R_3g_m + C_1R_1R_4g_m + 2C_1R_3 + C_1R_4\right)}$$

**10.349  INVALID-ORDER-349** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ R_3, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_4 R_1 R_3 g_m s^3 + C_1 R_1 R_3 g_m s + C_4 L_4 R_3 g_m s^2 + R_3 g_m}{g_m + s^3 \left(C_1 C_4 L_4 R_1 g_m + C_1 C_4 L_4\right) + s^2 \left(2C_1 C_4 R_1 R_3 g_m + 2C_1 C_4 R_3 + C_4 L_4 g_m\right) + s \left(C_1 R_1 g_m + C_1 + 2C_4 R_3 g_m\right)}$$

**10.350  INVALID-ORDER-350** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ R_3, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_4 R_1 R_3 g_m s^2 + L_4 R_3 g_m s}{2R_3 g_m + s^3 \left(2C_1 C_4 L_4 R_1 R_3 g_m + 2C_1 C_4 L_4 R_3\right) + s^2 \left(C_1 L_4 R_1 g_m + C_1 L_4 + 2C_4 L_4 R_3 g_m\right) + s \left(2C_1 R_1 R_3 g_m + 2C_1 R_3 + L_4 g_m\right)}$$

**10.351  INVALID-ORDER-351** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ R_3, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_4 R_1 R_3 g_m s^3 + R_3 g_m + s^2 \left(C_1 C_4 R_1 R_3 R_4 g_m + C_4 L_4 R_3 g_m\right) + s \left(C_1 R_1 R_3 g_m + C_4 R_3 R_4 g_m\right)}{g_m + s^3 \left(C_1 C_4 L_4 R_1 g_m + C_1 C_4 L_4\right) + s^2 \left(2C_1 C_4 R_1 R_3 g_m + C_1 C_4 R_1 R_4 g_m + 2C_1 C_4 R_3 + C_1 C_4 R_4 + C_4 L_4 g_m\right) + s \left(C_1 R_1 g_m + C_1 + 2C_4 R_3 g_m + C_4 R_4 g_m\right)}$$

**10.352  INVALID-ORDER-352** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ R_3, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_4 R_1 R_3 R_4 g_m s^2 + L_4 R_3 R_4 g_m s}{2R_3 R_4 g_m + s^3 \left(2C_1 C_4 L_4 R_1 R_3 R_4 g_m + 2C_1 C_4 L_4 R_3 R_4\right) + s^2 \left(2C_1 L_4 R_1 R_3 g_m + C_1 L_4 R_1 R_4 g_m + 2C_1 L_4 R_3 + C_1 L_4 R_4 + 2C_4 L_4 R_3 R_4 g_m\right) + s \left(2C_1 R_1 R_3 R_4 g_m + 2C_1 R_3 R_4 + 2L_4 R_3 g_m + L_4 R_4 g_m\right)}$$

**10.353  INVALID-ORDER-353** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ R_3, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_4 R_1 R_3 R_4 g_m s^3 + R_3 R_4 g_m + s^2 \left(C_1 L_4 R_1 R_3 g_m + C_4 L_4 R_3 R_4 g_m\right) + s \left(C_1 R_1 R_3 R_4 g_m + L_4 R_3 g_m\right)}{2R_3 g_m + R_4 g_m + s^3 \left(2C_1 C_4 L_4 R_1 R_3 g_m + C_1 C_4 L_4 R_1 R_4 g_m + 2C_1 C_4 L_4 R_3 + C_1 C_4 L_4 R_4\right) + s^2 \left(C_1 L_4 R_1 g_m + C_1 L_4 + 2C_4 L_4 R_3 g_m + C_4 L_4 R_4 g_m\right) + s \left(2C_1 R_1 R_3 g_m + C_1 R_1 R_4 g_m + 2C_1 R_3 + C_1 R_4 + L_4 g_m\right)}$$

**10.354  INVALID-ORDER-354** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ R_3, \ \frac{R_4 \left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_4 R_1 R_3 R_4 g_m s^3 + C_1 R_1 R_3 R_4 g_m s + C_4 L_4 R_3 R_4 g_m s^2 + R_3 R_4 g_m}{2R_3 g_m + R_4 g_m + s^3 \left(2C_1 C_4 L_4 R_1 R_3 g_m + C_1 C_4 L_4 R_1 R_4 g_m + 2C_1 C_4 L_4 R_3 + C_1 C_4 L_4 R_4\right) + s^2 \left(2C_1 C_4 R_1 R_3 R_4 g_m + 2C_1 C_4 R_3 R_4 + 2C_4 L_4 R_3 g_m + C_4 L_4 R_4 g_m\right) + s \left(2C_1 R_1 R_3 g_m + C_1 R_1 R_4 g_m + 2C_1 R_3 + C_1 R_4 + 2C_4 R_3 R_4 g_m\right)}$$

**10.355  INVALID-ORDER-355** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 R_1 g_m s + g_m}{s^2 \left(C_1 C_3 R_1 g_m + C_1 C_3 + 2C_1 C_4 R_1 g_m + 2C_1 C_4\right) + s \left(C_3 g_m + 2C_4 g_m\right)}$$

**10.356  INVALID-ORDER-356** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{1}{C_3 s}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 R_1 R_4 g_m s^2 + g_m + s \left(C_1 R_1 g_m + C_4 R_4 g_m\right)}{s^3 \left(C_1 C_3 C_4 R_1 R_4 g_m + C_1 C_3 C_4 R_4\right) + s^2 \left(C_1 C_3 R_1 g_m + C_1 C_3 + 2C_1 C_4 R_1 g_m + 2C_1 C_4 + C_3 C_4 R_4 g_m\right) + s \left(C_3 g_m + 2C_4 g_m\right)}$$

**10.357  INVALID-ORDER-357** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_4 R_1 g_m s^3 + C_1 R_1 g_m s + C_4 L_4 g_m s^2 + g_m}{C_3 C_4 L_4 g_m s^3 + s^4 \left(C_1 C_3 C_4 L_4 R_1 g_m + C_1 C_3 C_4 L_4\right) + s^2 \left(C_1 C_3 R_1 g_m + C_1 C_3 + 2C_1 C_4 R_1 g_m + 2C_1 C_4\right) + s \left(C_3 g_m + 2C_4 g_m\right)}$$

**10.358  INVALID-ORDER-358** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_4 R_1 g_m s^2 + L_4 g_m s}{2g_m + s^3 \left(C_1 C_3 L_4 R_1 g_m + C_1 C_3 L_4 + 2C_1 C_4 L_4 R_1 g_m + 2C_1 C_4 L_4\right) + s^2 \left(C_3 L_4 g_m + 2C_4 L_4 g_m\right) + s \left(2C_1 R_1 g_m + 2C_1\right)}$$

**10.359** **INVALID-ORDER-359** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{1}{C_3 s}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_4 R_1 g_m s^3 + g_m + s^2 \left(C_1 C_4 R_1 R_4 g_m + C_4 L_4 g_m\right) + s \left(C_1 R_1 g_m + C_4 R_4 g_m\right)}{s^4 \left(C_1 C_3 C_4 L_4 R_1 g_m + C_1 C_3 C_4 L_4\right) + s^3 \left(C_1 C_3 C_4 R_1 R_4 g_m + C_1 C_3 C_4 R_4 + C_3 C_4 L_4 g_m\right) + s^2 \left(C_1 C_3 R_1 g_m + C_1 C_3 + 2 C_1 C_4 R_1 g_m + 2 C_1 C_4 + C_3 C_4 R_4 g_m\right) + s \left(C_3 g_m + 2 C_4 g_m\right)}$$

**10.360** **INVALID-ORDER-360** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_4 R_1 R_4 g_m s^2 + L_4 R_4 g_m s}{2 R_4 g_m + s^3 \left(C_1 C_3 L_4 R_1 R_4 g_m + C_1 C_3 L_4 R_4 + 2 C_1 C_4 L_4 R_1 R_4 g_m + 2 C_1 C_4 L_4 R_4\right) + s^2 \left(2 C_1 L_4 R_1 g_m + 2 C_1 L_4 + C_3 L_4 R_4 g_m + 2 C_4 L_4 R_4 g_m\right) + s \left(2 C_1 R_1 R_4 g_m + 2 C_1 R_4 + 2 L_4 g_m\right)}$$

**10.361** **INVALID-ORDER-361** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_4 R_1 R_4 g_m s^3 + R_4 g_m + s^2 \left(C_1 L_4 R_1 g_m + C_4 L_4 R_4 g_m\right) + s \left(C_1 R_1 R_4 g_m + L_4 g_m\right)}{2 g_m + s^4 \left(C_1 C_3 C_4 L_4 R_1 R_4 g_m + C_1 C_3 C_4 L_4 R_4\right) + s^3 \left(C_1 C_3 L_4 R_1 g_m + C_1 C_3 L_4 + 2 C_1 C_4 L_4 R_1 g_m + 2 C_1 C_4 L_4 + C_3 C_4 L_4 R_4 g_m\right) + s^2 \left(C_1 C_3 R_1 R_4 g_m + C_1 C_3 R_4 + C_3 L_4 g_m + 2 C_4 L_4 g_m\right) + s \left(2 C_1 R_1 g_m + 2 C_1 + C_3 R_4 g_m\right)}$$

**10.362** **INVALID-ORDER-362** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{R_4 \left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_4 R_1 R_4 g_m s^3 + C_1 R_1 R_4 g_m s + C_4 L_4 R_4 g_m s^2 + R_4 g_m}{2 g_m + s^4 \left(C_1 C_3 C_4 L_4 R_1 R_4 g_m + C_1 C_3 C_4 L_4 R_4\right) + s^3 \left(2 C_1 C_4 L_4 R_1 g_m + 2 C_1 C_4 L_4 + C_3 C_4 L_4 R_4 g_m\right) + s^2 \left(C_1 C_3 R_1 R_4 g_m + C_1 C_3 R_4 + 2 C_1 C_4 R_1 R_4 g_m + 2 C_1 C_4 R_4 + 2 C_4 L_4 g_m\right) + s \left(2 C_1 R_1 g_m + 2 C_1 + C_3 R_4 g_m + 2 C_4 R_4 g_m\right)}$$

**10.363** **INVALID-ORDER-363** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 R_1 R_3 R_4 g_m s^2 + R_3 g_m + s \left(C_1 R_1 R_3 g_m + C_4 R_3 R_4 g_m\right)}{g_m + s^3 \left(C_1 C_3 C_4 R_1 R_3 R_4 g_m + C_1 C_3 C_4 R_3 R_4\right) + s^2 \left(C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_3 + 2 C_1 C_4 R_1 R_3 g_m + C_1 C_4 R_1 R_4 g_m + 2 C_1 C_4 R_3 + C_1 C_4 R_4 + C_3 C_4 R_3 R_4 g_m\right) + s \left(C_1 R_1 g_m + C_1 + C_3 R_3 g_m + 2 C_4 R_3 g_m + C_4 R_4 g_m\right)}$$

**10.364** **INVALID-ORDER-364** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_4 R_1 R_3 g_m s^3 + C_1 R_1 R_3 g_m s + C_4 L_4 R_3 g_m s^2 + R_3 g_m}{g_m + s^4 \left(C_1 C_3 C_4 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_4 R_3\right) + s^3 \left(C_1 C_4 L_4 R_1 g_m + C_1 C_4 L_4 + C_3 C_4 L_4 R_3 g_m\right) + s^2 \left(C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_3 + 2 C_1 C_4 R_1 R_3 g_m + 2 C_1 C_4 R_3 + C_4 L_4 g_m\right) + s \left(C_1 R_1 g_m + C_1 + C_3 R_3 g_m + 2 C_4 R_3 g_m\right)}$$

**10.365** **INVALID-ORDER-365** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_4 R_1 R_3 g_m s^2 + L_4 R_3 g_m s}{2 R_3 g_m + s^3 \left(C_1 C_3 L_4 R_1 R_3 g_m + C_1 C_3 L_4 R_3 + 2 C_1 C_4 L_4 R_1 R_3 g_m + 2 C_1 C_4 L_4 R_3\right) + s^2 \left(C_1 L_4 R_1 g_m + C_1 L_4 + C_3 L_4 R_3 g_m + 2 C_4 L_4 R_3 g_m\right) + s \left(2 C_1 R_1 R_3 g_m + 2 C_1 R_3 + L_4 g_m\right)}$$

**10.366** **INVALID-ORDER-366** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_4 R_1 R_3 g_m s^3 + R_3 g_m + s^2 \left(C_1 C_4 R_1 R_3 R_4 g_m + C_4 L_4 R_3 g_m\right) + s \left(C_1 R_1 R_3 g_m + C_4 R_3 R_4 g_m\right)}{g_m + s^4 \left(C_1 C_3 C_4 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_4 R_3\right) + s^3 \left(C_1 C_3 C_4 R_1 R_3 R_4 g_m + C_1 C_3 C_4 R_3 R_4 + C_1 C_4 L_4 R_1 g_m + C_1 C_4 L_4 + C_3 C_4 L_4 R_3 g_m\right) + s^2 \left(C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_3 + 2 C_1 C_4 R_1 R_3 g_m + C_1 C_4 R_1 R_4 g_m + 2 C_1 C_4 R_3 + C_1 C_4 R_4 + C_3 C_4 R_3 R_4 g_m + C_4 L_4 g_m\right) + s \left(C_1 R_1 \cdots\right)}$$

**10.367** **INVALID-ORDER-367** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_4 R_1 R_3 R_4 g_m s^2 + L_4 R_3 R_4 g_m s}{2 R_3 R_4 g_m + s^3 \left(C_1 C_3 L_4 R_1 R_3 R_4 g_m + C_1 C_3 L_4 R_3 R_4 + 2 C_1 C_4 L_4 R_1 R_3 R_4 g_m + 2 C_1 C_4 L_4 R_3 R_4\right) + s^2 \left(2 C_1 L_4 R_1 R_3 g_m + C_1 L_4 R_1 R_4 g_m + 2 C_1 L_4 R_3 + C_1 L_4 R_4 + C_3 L_4 R_3 R_4 g_m + 2 C_4 L_4 R_3 R_4 g_m\right) + s \left(2 C_1 R_1 R_3 R_4 g_m + 2 C_1 R_3 R_4 + 2 L_4 R_3 g_m + L_4 R_4 g_m\right)}$$

**10.368  INVALID-ORDER-368** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_4 R_1 R_3 R_4 g_m s^3 + R_3 R_4 g_m + s^2 \left(C_1 L_4 R_1 R_3 g_m + C_4 L_4 R_3 R_4 g_m\right) + s \left(C_1 R_1 R_3 R_4 g_m + L_4 R_3 g_m\right)}{2 R_3 g_m + R_4 g_m + s^4 \left(C_1 C_3 C_4 L_4 R_1 R_3 R_4 g_m + C_1 C_3 C_4 L_4 R_3 R_4\right) + s^3 \left(C_1 C_3 L_4 R_1 R_3 g_m + C_1 C_3 L_4 R_3 + 2 C_1 C_4 L_4 R_1 R_3 g_m + C_1 C_4 L_4 R_1 R_4 g_m + 2 C_1 C_4 L_4 R_3 + C_1 C_4 L_4 R_4 + C_3 C_4 L_4 R_3 R_4 g_m\right) + s^2 \left(C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4 + C_1 L_4 R_1 g_m + C_1 L_4 + C_3 L_4 R_3 g_m\right)}$$

**10.369  INVALID-ORDER-369** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_4 R_1 R_3 R_4 g_m s^3 + C_1 R_1 R_3 R_4 g_m s + C_4 L_4 R_3 R_4 g_m s^2 + R_3 R_4 g_m}{2 R_3 g_m + R_4 g_m + s^4 \left(C_1 C_3 C_4 L_4 R_1 R_3 R_4 g_m + C_1 C_3 C_4 L_4 R_3 R_4\right) + s^3 \left(2 C_1 C_4 L_4 R_1 R_3 g_m + C_1 C_4 L_4 R_1 R_4 g_m + 2 C_1 C_4 L_4 R_3 + C_1 C_4 L_4 R_4 + C_3 C_4 L_4 R_3 R_4 g_m\right) + s^2 \left(C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4 + 2 C_1 C_4 R_1 R_3 R_4 g_m + 2 C_1 C_4 R_3 R_4 + 2 C_4 L_4 R_3 g_m + C_4 L_4 R_4 g_m\right) + }$$

**10.370  INVALID-ORDER-370** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 R_1 R_3 g_m s^2 + g_m + s \left(C_1 R_1 g_m + C_3 R_3 g_m\right)}{s^3 \left(2 C_1 C_3 C_4 R_1 R_3 g_m + 2 C_1 C_3 C_4 R_3\right) + s^2 \left(C_1 C_3 R_1 g_m + C_1 C_3 + 2 C_1 C_4 R_1 g_m + 2 C_1 C_4 + 2 C_3 C_4 R_3 g_m\right) + s \left(C_3 g_m + 2 C_4 g_m\right)}$$

**10.371  INVALID-ORDER-371** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 R_1 R_3 R_4 g_m s^2 + R_4 g_m + s \left(C_1 R_1 R_4 g_m + C_3 R_3 R_4 g_m\right)}{2 g_m + s^3 \left(2 C_1 C_3 C_4 R_1 R_3 R_4 g_m + 2 C_1 C_3 C_4 R_3 R_4\right) + s^2 \left(2 C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_1 R_4 g_m + 2 C_1 C_3 R_3 + C_1 C_3 R_4 + 2 C_1 C_4 R_1 R_4 g_m + 2 C_1 C_4 R_4 + 2 C_3 C_4 R_3 R_4 g_m\right) + s \left(2 C_1 R_1 g_m + 2 C_1 + 2 C_3 R_3 g_m + C_3 R_4 g_m + 2 C_4 R_4 g_m\right)}$$

**10.372  INVALID-ORDER-372** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 R_1 R_3 R_4 g_m s^3 + g_m + s^2 \left(C_1 C_3 R_1 R_3 g_m + C_1 C_4 R_1 R_4 g_m + C_3 C_4 R_3 R_4 g_m\right) + s \left(C_1 R_1 g_m + C_3 R_3 g_m + C_4 R_4 g_m\right)}{s^3 \left(2 C_1 C_3 C_4 R_1 R_3 g_m + C_1 C_3 C_4 R_1 R_4 g_m + 2 C_1 C_3 C_4 R_3 + C_1 C_3 C_4 R_4\right) + s^2 \left(C_1 C_3 R_1 g_m + C_1 C_3 + 2 C_1 C_4 R_1 g_m + 2 C_1 C_4 + 2 C_3 C_4 R_3 g_m + C_3 C_4 R_4 g_m\right) + s \left(C_3 g_m + 2 C_4 g_m\right)}$$

**10.373  INVALID-ORDER-373** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 L_4 R_1 R_3 g_m s^4 + g_m + s^3 \left(C_1 C_4 L_4 R_1 g_m + C_3 C_4 L_4 R_3 g_m\right) + s^2 \left(C_1 C_3 R_1 R_3 g_m + C_4 L_4 g_m\right) + s \left(C_1 R_1 g_m + C_3 R_3 g_m\right)}{s^4 \left(C_1 C_3 C_4 L_4 R_1 g_m + C_1 C_3 C_4 L_4\right) + s^3 \left(2 C_1 C_3 C_4 R_1 R_3 g_m + 2 C_1 C_3 C_4 R_3 + C_3 C_4 L_4 g_m\right) + s^2 \left(C_1 C_3 R_1 g_m + C_1 C_3 + 2 C_1 C_4 R_1 g_m + 2 C_1 C_4 + 2 C_3 C_4 R_3 g_m\right) + s \left(C_3 g_m + 2 C_4 g_m\right)}$$

**10.374  INVALID-ORDER-374** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 L_4 R_1 R_3 g_m s^3 + L_4 g_m s + s^2 \left(C_1 L_4 R_1 g_m + C_3 L_4 R_3 g_m\right)}{2 g_m + s^4 \left(2 C_1 C_3 C_4 L_4 R_1 R_3 g_m + 2 C_1 C_3 C_4 L_4 R_3\right) + s^3 \left(C_1 C_3 L_4 R_1 g_m + C_1 C_3 L_4 + 2 C_1 C_4 L_4 R_1 g_m + 2 C_1 C_4 L_4 + 2 C_3 C_4 L_4 R_3 g_m\right) + s^2 \left(2 C_1 C_3 R_1 R_3 g_m + 2 C_1 C_3 R_3 + C_3 L_4 g_m + 2 C_4 L_4 g_m\right) + s \left(2 C_1 R_1 g_m + 2 C_1 + 2 C_3 R_3 g_m\right)}$$

**10.375  INVALID-ORDER-375** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 L_4 R_1 R_3 g_m s^4 + g_m + s^3 \left(C_1 C_3 C_4 R_1 R_3 R_4 g_m + C_1 C_4 L_4 R_1 g_m + C_3 C_4 L_4 R_3 g_m\right) + s^2 \left(C_1 C_3 R_1 R_3 g_m + C_1 C_4 R_1 R_4 g_m + C_3 C_4 R_3 R_4 g_m + C_4 L_4 g_m\right) + s \left(C_1 R_1 g_m + C_3 R_3 g_m + C_4 R_4 g_m\right)}{s^4 \left(C_1 C_3 C_4 L_4 R_1 g_m + C_1 C_3 C_4 L_4\right) + s^3 \left(2 C_1 C_3 C_4 R_1 R_3 g_m + C_1 C_3 C_4 R_1 R_4 g_m + 2 C_1 C_3 C_4 R_3 + C_1 C_3 C_4 R_4 + C_3 C_4 L_4 g_m\right) + s^2 \left(C_1 C_3 R_1 g_m + C_1 C_3 + 2 C_1 C_4 R_1 g_m + 2 C_1 C_4 + 2 C_3 C_4 R_3 g_m + C_3 C_4 R_4 g_m\right) + s \left(C_3 g_m + 2 C_4 g_m\right)}$$

**10.376  INVALID-ORDER-376** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 L_4 R_1 R_3 R_4 g_m s^3 + L_4 R_4 g_m s + s^2 \left(C_1 L_4 R_1 R_4 g_m + C_3 L_4 R_3 R_4 g_m\right)}{2 R_4 g_m + s^4 \left(2 C_1 C_3 C_4 L_4 R_1 R_3 R_4 g_m + 2 C_1 C_3 C_4 L_4 R_3 R_4\right) + s^3 \left(2 C_1 C_3 L_4 R_1 R_3 g_m + C_1 C_3 L_4 R_1 R_4 g_m + 2 C_1 C_3 L_4 R_3 + C_1 C_3 L_4 R_4 + 2 C_1 C_4 L_4 R_1 R_4 g_m + 2 C_1 C_4 L_4 R_4 + 2 C_3 C_4 L_4 R_3 R_4 g_m\right) + s^2 \left(2 C_1 C_3 R_1 R_3 R_4 g_m + 2 C_1 C_3 R_3 R_4 + 2 C_1 L_4 R_1 g_m + 2 C_1 L_4 + 2 C_3 L_4 R_3 g_m\right)}$$

**10.377 INVALID-ORDER-377** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 L_4 R_1 R_3 R_4 g_m s^4 + R_4 g_m + s^3 \left(C_1 C_3 L_4 R_1 R_3 g_m + C_1 C_4 L_4 R_1 R_4 g_m + C_3 C_4 L_4 R_3 R_4 g_m\right) + s^2 \left(C_1 C_3 R_1 R_3 R_4 g_m + C_1 L_4 R_1 g_m + C_3 L_4 R_3 g_m + C_4 L_4 R_4 g_m\right) + s \left(C_1 R_1 R_4 g_m + C_3 R_3 R_4 g_m + L_4 g_m\right)}{2 g_m + s^4 \left(2 C_1 C_3 C_4 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_4 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_4 R_3 + C_1 C_3 C_4 L_4 R_4\right) + s^3 \left(C_1 C_3 L_4 R_1 g_m + C_1 C_3 L_4 + 2 C_1 C_4 L_4 R_1 g_m + 2 C_1 C_4 L_4 + 2 C_3 C_4 L_4 R_3 g_m + C_3 C_4 L_4 R_4 g_m\right) + s^2 \left(2 C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_1 R_4 g_m + 2 C_1 C_3 R_3 + C_1 C_3 R_4 + C_3 L_4 g_m + 2C}$$

**10.378 INVALID-ORDER-378** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 L_4 R_1 R_3 R_4 g_m s^4 + R_4 g_m + s^3 \left(C_1 C_4 L_4 R_1 R_4 g_m + C_3 C_4 L_4 R_3 R_4 g_m\right) + s^2 \left(C_1 C_3 R_1 R_3 R_4 g_m + C_4 L_4 R_4 g_m\right) + s \left(C_1 R_1 R_4 g_m + C_3 R_3 R_4 g_m\right)}{2 g_m + s^4 \left(2 C_1 C_3 C_4 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_4 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_4 R_3 + C_1 C_3 C_4 L_4 R_4\right) + s^3 \left(2 C_1 C_3 C_4 R_1 R_3 R_4 g_m + 2 C_1 C_3 C_4 R_3 R_4 + 2 C_1 C_4 L_4 R_1 g_m + 2 C_1 C_4 L_4 + 2 C_3 C_4 L_4 R_3 g_m + C_3 C_4 L_4 R_4 g_m\right) + s^2 \left(2 C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_1 R_4 g_m + 2 C_1 C_3 R_3 + C_1 C_3 R_4 +}$$

**10.379 INVALID-ORDER-379** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ R_4, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 L_3 R_1 R_4 g_m s^3 + C_1 R_1 R_4 g_m s + C_3 L_3 R_4 g_m s^2 + R_4 g_m}{2 g_m + s^3 \left(2 C_1 C_3 L_3 R_1 g_m + 2 C_1 C_3 L_3\right) + s^2 \left(C_1 C_3 R_1 R_4 g_m + C_1 C_3 R_4 + 2 C_3 L_3 g_m\right) + s \left(2 C_1 R_1 g_m + 2 C_1 + C_3 R_4 g_m\right)}$$

**10.380 INVALID-ORDER-380** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 L_3 R_1 g_m s^3 + C_1 R_1 g_m s + C_3 L_3 g_m s^2 + g_m}{2 C_3 C_4 L_3 g_m s^3 + s^4 \left(2 C_1 C_3 C_4 L_3 R_1 g_m + 2 C_1 C_3 C_4 L_3\right) + s^2 \left(C_1 C_3 R_1 g_m + C_1 C_3 + 2 C_1 C_4 R_1 g_m + 2 C_1 C_4\right) + s \left(C_3 g_m + 2 C_4 g_m\right)}$$

**10.381 INVALID-ORDER-381** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 L_3 R_1 R_4 g_m s^3 + C_1 R_1 R_4 g_m s + C_3 L_3 R_4 g_m s^2 + R_4 g_m}{2 g_m + s^4 \left(2 C_1 C_3 C_4 L_3 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_3 R_4\right) + s^3 \left(2 C_1 C_3 L_3 R_1 g_m + 2 C_1 C_3 L_3 + 2 C_3 C_4 L_3 R_4 g_m\right) + s^2 \left(C_1 C_3 R_1 R_4 g_m + C_1 C_3 R_4 + 2 C_1 C_4 R_1 R_4 g_m + 2 C_1 C_4 R_4 + 2 C_3 L_3 g_m\right) + s \left(2 C_1 R_1 g_m + 2 C_1 + C_3 R_4 g_m + 2 C_4 R_4 g_m\right)}$$

**10.382 INVALID-ORDER-382** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 L_3 R_1 R_4 g_m s^4 + g_m + s^3 \left(C_1 C_3 L_3 R_1 g_m + C_3 C_4 L_3 R_4 g_m\right) + s^2 \left(C_1 C_4 R_1 R_4 g_m + C_3 L_3 g_m\right) + s \left(C_1 R_1 g_m + C_4 R_4 g_m\right)}{s^4 \left(2 C_1 C_3 C_4 L_3 R_1 g_m + 2 C_1 C_3 C_4 L_3\right) + s^3 \left(C_1 C_3 C_4 R_1 R_4 g_m + C_1 C_3 C_4 R_4 + 2 C_3 C_4 L_3 g_m\right) + s^2 \left(C_1 C_3 R_1 g_m + C_1 C_3 + 2 C_1 C_4 R_1 g_m + 2 C_1 C_4 + C_3 C_4 R_4 g_m\right) + s \left(C_3 g_m + 2 C_4 g_m\right)}$$

**10.383 INVALID-ORDER-383** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 L_3 L_4 R_1 g_m s^5 + C_1 R_1 g_m s + C_3 C_4 L_3 L_4 g_m s^4 + g_m + s^3 \left(C_1 C_3 L_3 R_1 g_m + C_1 C_4 L_4 R_1 g_m\right) + s^2 \left(C_3 L_3 g_m + C_4 L_4 g_m\right)}{s^4 \left(2 C_1 C_3 C_4 L_3 R_1 g_m + 2 C_1 C_3 C_4 L_3 + C_1 C_3 C_4 L_4 R_1 g_m + C_1 C_3 C_4 L_4\right) + s^3 \left(2 C_3 C_4 L_3 g_m + C_3 C_4 L_4 g_m\right) + s^2 \left(C_1 C_3 R_1 g_m + C_1 C_3 + 2 C_1 C_4 R_1 g_m + 2 C_1 C_4\right) + s \left(C_3 g_m + 2 C_4 g_m\right)}$$

**10.384 INVALID-ORDER-384** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 L_3 L_4 R_1 g_m s^4 + C_1 L_4 R_1 g_m s^2 + C_3 L_3 L_4 g_m s^3 + L_4 g_m s}{2 C_3 C_4 L_3 L_4 g_m s^4 + 2 g_m + s^5 \left(2 C_1 C_3 C_4 L_3 L_4 R_1 g_m + 2 C_1 C_3 C_4 L_3 L_4\right) + s^3 \left(2 C_1 C_3 L_3 R_1 g_m + 2 C_1 C_3 L_3 + C_1 C_3 L_4 R_1 g_m + C_1 C_3 L_4 + 2 C_1 C_4 L_4 R_1 g_m + 2 C_1 C_4 L_4\right) + s^2 \left(2 C_3 L_3 g_m + C_3 L_4 g_m + 2 C_4 L_4 g_m\right) + s \left(2 C_1 R_1 g_m + 2 C_1\right)}$$

**10.385 INVALID-ORDER-385** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 L_3 L_4 R_1 g_m s^5 + g_m + s^4 \left(C_1 C_3 C_4 L_3 R_1 R_4 g_m + C_3 C_4 L_3 L_4 g_m\right) + s^3 \left(C_1 C_3 L_3 R_1 g_m + C_1 C_4 L_4 R_1 g_m + C_3 C_4 L_3 R_4 g_m\right) + s^2 \left(C_1 C_4 R_1 R_4 g_m + C_3 L_3 g_m + C_4 L_4 g_m\right) + s \left(C_1 R_1 g_m + C_4 R_4 g_m\right)}{s^4 \left(2 C_1 C_3 C_4 L_3 R_1 g_m + 2 C_1 C_3 C_4 L_3 + C_1 C_3 C_4 L_4 R_1 g_m + C_1 C_3 C_4 L_4\right) + s^3 \left(C_1 C_3 C_4 R_1 R_4 g_m + C_1 C_3 C_4 R_4 + 2 C_3 C_4 L_3 g_m + C_3 C_4 L_4 g_m\right) + s^2 \left(C_1 C_3 R_1 g_m + C_1 C_3 + 2 C_1 C_4 R_1 g_m + 2 C_1 C_4 + C_3 C_4 R_4 g_m\right) + s \left(C_3 g_m + 2 C_4 g_m\right)}$$

**10.386**  **INVALID-ORDER-386** $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ L_3 s + \frac{1}{C_3 s},\ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_1 C_3 L_3 L_4 R_1 R_4 g_m s^4 + C_1 L_4 R_1 R_4 g_m s^2 + C_3 L_3 L_4 R_4 g_m s^3 + L_4 R_4 g_m s}{2R_4 g_m + s^5 \left(2C_1 C_3 C_4 L_3 L_4 R_1 R_4 g_m + 2C_1 C_3 C_4 L_3 L_4 R_4\right) + s^4 \left(2C_1 C_3 L_3 L_4 R_1 g_m + 2C_1 C_3 L_3 L_4 + 2C_3 C_4 L_3 L_4 R_4 g_m\right) + s^3 \left(2C_1 C_3 L_3 R_1 R_4 g_m + 2C_1 C_3 L_3 R_4 + C_1 C_3 L_4 R_1 R_4 g_m + C_1 C_3 L_4 R_4 + 2C_1 C_4 L_4 R_1 R_4 g_m + 2C_1 C_4 L_4 R_4 + 2C_3 L_3 L_4 g_m\right) + s^2 \left(2C_1 L_4 R_1 g_m + \ldots\right)}$$

**10.387**  **INVALID-ORDER-387** $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ L_3 s + \frac{1}{C_3 s},\ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 L_3 L_4 R_1 R_4 g_m s^5 + R_4 g_m + s^4 \left(C_1 C_3 L_3 L_4 R_1 g_m + C_3 C_4 L_3 L_4 R_4 g_m\right) + s^3 \left(C_1 C_3 L_3 R_1 R_4 g_m + C_1 C_4 L_4 R_1 R_4 g_m + C_3 L_3 L_4 g_m\right) + s^2 \left(C_1 L_4 R_1 g_m + C_3 L_3 R_4 g_m + C_4 L_4 R_4 g_m\right) + s \left(C_1 R_1 R_4 g_m + L_4 g_m\right)}{2g_m + s^5 \left(2C_1 C_3 C_4 L_3 L_4 R_1 g_m + 2C_1 C_3 C_4 L_3 L_4\right) + s^4 \left(C_1 C_3 C_4 L_4 R_1 R_4 g_m + C_1 C_3 C_4 L_4 R_4 + 2C_3 C_4 L_3 L_4 g_m\right) + s^3 \left(2C_1 C_3 L_3 R_1 g_m + 2C_1 C_3 L_3 + C_1 C_3 L_4 R_1 g_m + C_1 C_3 L_4 + 2C_1 C_4 L_4 R_1 g_m + 2C_1 C_4 L_4 + C_3 C_4 L_4 R_4 g_m\right) + s^2 \left(C_1 C_3 R_1 R_4 g_m + C_1 C_3 R_4 + 2C_3 L_3 g_m + \ldots\right)}$$

**10.388**  **INVALID-ORDER-388** $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ L_3 s + \frac{1}{C_3 s},\ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 L_3 L_4 R_1 R_4 g_m s^5 + C_1 R_1 R_4 g_m s + C_3 C_4 L_3 L_4 R_4 g_m s^4 + R_4 g_m + s^3 \left(C_1 C_3 L_3 R_1 R_4 g_m + C_1 C_4 L_4 R_1 R_4 g_m\right) + s^2 \left(C_3 L_3 R_4 g_m + C_4 L_4 R_4 g_m + \ldots\right)}{2g_m + s^5 \left(2C_1 C_3 C_4 L_3 L_4 R_1 g_m + 2C_1 C_3 C_4 L_3 L_4\right) + s^4 \left(2C_1 C_3 C_4 L_3 R_1 R_4 g_m + 2C_1 C_3 C_4 L_3 R_4 + C_1 C_3 C_4 L_4 R_1 R_4 g_m + C_1 C_3 C_4 L_4 R_4 + 2C_3 C_4 L_3 L_4 g_m\right) + s^3 \left(2C_1 C_3 L_3 R_1 g_m + 2C_1 C_3 L_3 + 2C_1 C_4 L_4 R_1 g_m + 2C_1 C_4 L_4 + 2C_3 C_4 L_3 R_4 g_m + C_3 C_4 L_4 R_4 g_m\right) + s^2 \left(C_1 C_3 R \ldots\right)}$$

**10.389**  **INVALID-ORDER-389** $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \frac{L_3 s}{C_3 L_3 s^2 + 1},\ R_4,\ \infty,\ \infty\right)$

$$H(s) = \frac{C_1 L_3 R_1 R_4 g_m s^2 + L_3 R_4 g_m s}{R_4 g_m + s^3 \left(C_1 C_3 L_3 R_1 R_4 g_m + C_1 C_3 L_3 R_4\right) + s^2 \left(2C_1 L_3 R_1 g_m + 2C_1 L_3 + C_3 L_3 R_4 g_m\right) + s \left(C_1 R_1 R_4 g_m + C_1 R_4 + 2L_3 g_m\right)}$$

**10.390**  **INVALID-ORDER-390** $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \frac{L_3 s}{C_3 L_3 s^2 + 1},\ \frac{1}{C_4 s},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_1 L_3 R_1 g_m s^2 + L_3 g_m s}{g_m + s^3 \left(C_1 C_3 L_3 R_1 g_m + C_1 C_3 L_3 + 2C_1 C_4 L_3 R_1 g_m + 2C_1 C_4 L_3\right) + s^2 \left(C_3 L_3 g_m + 2C_4 L_3 g_m\right) + s \left(C_1 R_1 g_m + C_1\right)}$$

**10.391**  **INVALID-ORDER-391** $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \frac{L_3 s}{C_3 L_3 s^2 + 1},\ \frac{R_4}{C_4 R_4 s + 1},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_1 L_3 R_1 R_4 g_m s^2 + L_3 R_4 g_m s}{R_4 g_m + s^3 \left(C_1 C_3 L_3 R_1 R_4 g_m + C_1 C_3 L_3 R_4 + 2C_1 C_4 L_3 R_1 R_4 g_m + 2C_1 C_4 L_3 R_4\right) + s^2 \left(2C_1 L_3 R_1 g_m + 2C_1 L_3 + C_3 L_3 R_4 g_m + 2C_4 L_3 R_4 g_m\right) + s \left(C_1 R_1 R_4 g_m + C_1 R_4 + 2L_3 g_m\right)}$$

**10.392**  **INVALID-ORDER-392** $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \frac{L_3 s}{C_3 L_3 s^2 + 1},\ R_4 + \frac{1}{C_4 s},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_3 R_1 R_4 g_m s^3 + L_3 g_m s + s^2 \left(C_1 L_3 R_1 g_m + C_4 L_3 R_4 g_m\right)}{g_m + s^4 \left(C_1 C_3 C_4 L_3 R_1 R_4 g_m + C_1 C_3 C_4 L_3 R_4\right) + s^3 \left(C_1 C_3 L_3 R_1 g_m + C_1 C_3 L_3 + 2C_1 C_4 L_3 R_1 g_m + 2C_1 C_4 L_3 + C_3 C_4 L_3 R_4 g_m\right) + s^2 \left(C_1 C_4 R_1 R_4 g_m + C_1 C_4 R_4 + C_3 L_3 g_m + 2C_4 L_3 g_m\right) + s \left(C_1 R_1 g_m + C_1 + C_4 R_4 g_m\right)}$$

**10.393**  **INVALID-ORDER-393** $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \frac{L_3 s}{C_3 L_3 s^2 + 1},\ L_4 s + \frac{1}{C_4 s},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_3 L_4 R_1 g_m s^4 + C_1 L_3 R_1 g_m s^2 + C_4 L_3 L_4 g_m s^3 + L_3 g_m s}{C_3 C_4 L_3 L_4 g_m s^4 + g_m + s^5 \left(C_1 C_3 C_4 L_3 L_4 R_1 g_m + C_1 C_3 C_4 L_3 L_4\right) + s^3 \left(C_1 C_3 L_3 R_1 g_m + C_1 C_3 L_3 + 2C_1 C_4 L_3 R_1 g_m + 2C_1 C_4 L_3 + C_1 C_4 L_4 R_1 g_m + C_1 C_4 L_4\right) + s^2 \left(C_3 L_3 g_m + 2C_4 L_3 g_m + C_4 L_4 g_m\right) + s \left(C_1 R_1 g_m + C_1\right)}$$

**10.394**  **INVALID-ORDER-394** $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \frac{L_3 s}{C_3 L_3 s^2 + 1},\ \frac{L_4 s}{C_4 L_4 s^2 + 1},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_1 L_3 L_4 R_1 g_m s^2 + L_3 L_4 g_m s}{2L_3 g_m + L_4 g_m + s^3 \left(C_1 C_3 L_3 L_4 R_1 g_m + C_1 C_3 L_3 L_4 + 2C_1 C_4 L_3 L_4 R_1 g_m + 2C_1 C_4 L_3 L_4\right) + s^2 \left(C_3 L_3 L_4 g_m + 2C_4 L_3 L_4 g_m\right) + s \left(2C_1 L_3 R_1 g_m + 2C_1 L_3 + C_1 L_4 R_1 g_m + C_1 L_4\right)}$$

**10.395  INVALID-ORDER-395** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_3 L_4 R_1 g_m s^4 + L_3 g_m s + s^3 \left(C_1 C_4 L_3 R_1 R_4 g_m + C_4 L_3 L_4 g_m\right) + s^2 \left(C_1 L_3 R_1 g_m + C_4 L_3 R_4 g_m\right)}{g_m + s^5 \left(C_1 C_3 C_4 L_3 L_4 R_1 g_m + C_1 C_3 C_4 L_3 L_4\right) + s^4 \left(C_1 C_3 C_4 L_3 R_1 R_4 g_m + C_1 C_3 C_4 L_3 R_4 + C_3 C_4 L_3 L_4 g_m\right) + s^3 \left(C_1 C_3 L_3 R_1 g_m + C_1 C_3 L_3 + 2 C_1 C_4 L_3 R_1 g_m + 2 C_1 C_4 L_3 + C_1 C_4 L_4 R_1 g_m + C_1 C_4 L_4 + C_3 C_4 L_3 R_4 g_m\right) + s^2 \left(C_1 C_4 R_1 R_4 g_m + C_1 C_4 R_4 + C_3 L_3 g_m + 2 C_4 L_3 \cdots\right)}$$

**10.396  INVALID-ORDER-396** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_3 L_4 R_1 R_4 g_m s^2 + L_3 L_4 R_4 g_m s}{2 L_3 R_4 g_m + L_4 R_4 g_m + s^3 \left(C_1 C_3 L_3 L_4 R_1 R_4 g_m + C_1 C_3 L_3 L_4 R_4 + 2 C_1 C_4 L_3 L_4 R_1 R_4 g_m + 2 C_1 C_4 L_3 L_4 R_4\right) + s^2 \left(2 C_1 L_3 L_4 R_1 g_m + 2 C_1 L_3 L_4 + C_3 L_3 L_4 R_4 g_m + 2 C_4 L_3 L_4 R_4 g_m\right) + s \left(2 C_1 L_3 R_1 R_4 g_m + 2 C_1 L_3 R_4 + C_1 L_4 R_1 R_4 g_m + C_1 L_4 R_4 + 2 L_3 L_4 g_m\right)}$$

**10.397  INVALID-ORDER-397** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_3 L_4 R_1 R_4 g_m s^4 + L_3 R_4 g_m s + s^3 \left(C_1 L_3 L_4 R_1 g_m + C_4 L_3 L_4 R_4 g_m\right) + s^2 \left(C_1 L_3 R_1 R_4 g_m + L_3 L_4 g_m\right)}{R_4 g_m + s^5 \left(C_1 C_3 C_4 L_3 L_4 R_1 R_4 g_m + C_1 C_3 C_4 L_3 L_4 R_4\right) + s^4 \left(C_1 C_3 L_3 L_4 R_1 g_m + C_1 C_3 L_3 L_4 + 2 C_1 C_4 L_3 L_4 R_1 g_m + 2 C_1 C_4 L_3 L_4 + C_3 C_4 L_3 L_4 R_4 g_m\right) + s^3 \left(C_1 C_3 L_3 R_1 R_4 g_m + C_1 C_3 L_3 R_4 + C_1 C_4 L_4 R_1 R_4 g_m + C_1 C_4 L_4 R_4 + C_3 L_3 L_4 g_m + 2 C_4 L_3 L_4 g_m\right) + s^2 \left(2 C_1 L_3 R_1 g_m \cdots\right)}$$

**10.398  INVALID-ORDER-398** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_3 L_4 R_1 R_4 g_m s^4 + C_1 L_3 R_1 R_4 g_m s^2 + C_4 L_3 L_4 R_4 g_m s^3 + L_3 R_4 g_m s}{R_4 g_m + s^5 \left(C_1 C_3 C_4 L_3 L_4 R_1 R_4 g_m + C_1 C_3 C_4 L_3 L_4 R_4\right) + s^4 \left(2 C_1 C_4 L_3 L_4 R_1 g_m + 2 C_1 C_4 L_3 L_4 + C_3 C_4 L_3 L_4 R_4 g_m\right) + s^3 \left(C_1 C_3 L_3 R_1 R_4 g_m + C_1 C_3 L_3 R_4 + 2 C_1 C_4 L_3 R_1 R_4 g_m + 2 C_1 C_4 L_3 R_4 + C_1 C_4 L_4 R_1 R_4 g_m + C_1 C_4 L_4 R_4 + 2 C_4 L_3 L_4 g_m\right) + s^2 \left(2 C_1 L_3 R_1 g_m + 2 C_1 L_3 \cdots\right)}$$

**10.399  INVALID-ORDER-399** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ R_4, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 L_3 R_1 R_4 g_m s^3 + R_4 g_m + s^2 \left(C_1 C_3 R_1 R_3 R_4 g_m + C_3 L_3 R_4 g_m\right) + s \left(C_1 R_1 R_4 g_m + C_3 R_3 R_4 g_m\right)}{2 g_m + s^3 \left(2 C_1 C_3 L_3 R_1 g_m + 2 C_1 C_3 L_3\right) + s^2 \left(2 C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_1 R_4 g_m + 2 C_1 C_3 R_3 + C_1 C_3 R_4 + 2 C_3 L_3 g_m\right) + s \left(2 C_1 R_1 g_m + 2 C_1 + 2 C_3 R_3 g_m + C_3 R_4 g_m\right)}$$

**10.400  INVALID-ORDER-400** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 L_3 R_1 g_m s^3 + g_m + s^2 \left(C_1 C_3 R_1 R_3 g_m + C_3 L_3 g_m\right) + s \left(C_1 R_1 g_m + C_3 R_3 g_m\right)}{s^4 \left(2 C_1 C_3 C_4 L_3 R_1 g_m + 2 C_1 C_3 C_4 L_3\right) + s^3 \left(2 C_1 C_3 C_4 R_1 R_3 g_m + 2 C_1 C_3 C_4 R_3 + 2 C_3 C_4 L_3 g_m\right) + s^2 \left(C_1 C_3 R_1 g_m + C_1 C_3 + 2 C_1 C_4 R_1 g_m + 2 C_1 C_4 + 2 C_3 C_4 R_3 g_m\right) + s \left(C_3 g_m + 2 C_4 g_m\right)}$$

**10.401  INVALID-ORDER-401** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 L_3 R_1 R_4 g_m s^3 + R_4 g_m + s^2 \left(C_1 C_3 R_1 R_3 R_4 g_m + C_3 L_3 R_4 g_m\right) + s \left(C_1 R_1 R_4 g_m + C_3 R_3 R_4 g_m\right)}{2 g_m + s^4 \left(2 C_1 C_3 C_4 L_3 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_3 R_4\right) + s^3 \left(2 C_1 C_3 C_4 R_1 R_3 R_4 g_m + 2 C_1 C_3 C_4 R_3 R_4 + 2 C_1 C_3 L_3 R_1 g_m + 2 C_1 C_3 L_3 + 2 C_3 C_4 L_3 R_4 g_m\right) + s^2 \left(2 C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_1 R_4 g_m + 2 C_1 C_3 R_3 + C_1 C_3 R_4 + 2 C_1 C_4 R_1 R_4 g_m + 2 C_1 C_4 R_4 + 2 C_3 C_4 R_3 R_4 g_m + 2 C_3 L_3 \cdots\right)}$$

**10.402  INVALID-ORDER-402** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 L_3 R_1 R_4 g_m s^4 + g_m + s^3 \left(C_1 C_3 C_4 R_1 R_3 R_4 g_m + C_1 C_3 L_3 R_1 g_m + C_3 C_4 L_3 R_4 g_m\right) + s^2 \left(C_1 C_3 R_1 R_3 g_m + C_1 C_4 R_1 R_4 g_m + C_3 C_4 R_3 R_4 g_m + C_3 L_3 g_m\right) + s \left(C_1 R_1 g_m + C_3 R_3 g_m + C_4 R_4 g_m\right)}{s^4 \left(2 C_1 C_3 C_4 L_3 R_1 g_m + 2 C_1 C_3 C_4 L_3\right) + s^3 \left(2 C_1 C_3 C_4 R_1 R_3 g_m + C_1 C_3 C_4 R_1 R_4 g_m + 2 C_1 C_3 C_4 R_3 + C_1 C_3 C_4 R_4 + 2 C_3 C_4 L_3 g_m\right) + s^2 \left(C_1 C_3 R_1 g_m + C_1 C_3 + 2 C_1 C_4 R_1 g_m + 2 C_1 C_4 + 2 C_3 C_4 R_3 g_m + C_3 C_4 R_4 g_m\right) + s \left(C_3 g_m + 2 C_4 g_m\right)}$$

**10.403  INVALID-ORDER-403** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 L_3 L_4 R_1 g_m s^5 + g_m + s^4 \left(C_1 C_3 C_4 L_4 R_1 R_3 g_m + C_3 C_4 L_3 L_4 g_m\right) + s^3 \left(C_1 C_3 L_3 R_1 g_m + C_1 C_4 L_4 R_1 g_m + C_3 C_4 L_4 R_3 g_m\right) + s^2 \left(C_1 C_3 R_1 R_3 g_m + C_3 L_3 g_m + C_4 L_4 g_m\right) + s \left(C_1 R_1 g_m + C_3 R_3 g_m\right)}{s^4 \left(2 C_1 C_3 C_4 L_3 R_1 g_m + 2 C_1 C_3 C_4 L_3 + C_1 C_3 C_4 L_4 R_1 g_m + C_1 C_3 C_4 L_4\right) + s^3 \left(2 C_1 C_3 C_4 R_1 R_3 g_m + 2 C_1 C_3 C_4 R_3 + 2 C_3 C_4 L_3 g_m + C_3 C_4 L_4 g_m\right) + s^2 \left(C_1 C_3 R_1 g_m + C_1 C_3 + 2 C_1 C_4 R_1 g_m + 2 C_1 C_4 + 2 C_3 C_4 R_3 g_m\right) + s \left(C_3 g_m + 2 C_4 g_m\right)}$$

**10.404  INVALID-ORDER-404** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$H(s) = \dfrac{C_1 C_3 L_3 L_4 R_1 g_m s^4 + L_4 g_m s + s^3 \left(C_1 C_3 L_4 R_1 R_3 g_m + C_3 L_3 L_4 g_m\right) + s^2 \left(C_1 L_4 R_1 g_m + C_3 L_4 R_3 g_m\right)}{2g_m + s^5 \left(2C_1 C_3 C_4 L_3 L_4 R_1 g_m + 2C_1 C_3 C_4 L_3 L_4\right) + s^4 \left(2C_1 C_3 C_4 L_4 R_1 R_3 g_m + 2C_1 C_3 C_4 L_4 R_3 + 2C_3 C_4 L_3 L_4 g_m\right) + s^3 \left(2C_1 C_3 L_3 R_1 g_m + 2C_1 C_3 L_3 + C_1 C_3 L_4 R_1 g_m + C_1 C_3 L_4 + 2C_1 C_4 L_4 R_1 g_m + 2C_1 C_4 L_4 + 2C_3 C_4 L_4 R_3 g_m\right) + s^2 \left(2C_1 C_3 R_1 R_3 g_m + 2C_1 C_3 R_3 + 2C_3 \ldots\right)}$

**10.405  INVALID-ORDER-405** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$H(s) = \dfrac{C_1 C_3 C_4 L_3 L_4 R_1 g_m s^5 + g_m + s^4 \left(C_1 C_3 C_4 L_3 R_1 R_4 g_m + C_1 C_3 C_4 L_4 R_1 R_3 g_m + C_3 L_3 L_4 g_m\right) + s^3 \left(C_1 C_3 C_4 R_1 R_3 R_4 g_m + C_1 C_3 L_3 R_1 g_m + C_1 C_4 L_4 R_1 g_m + C_3 C_4 L_3 R_4 g_m + C_3 C_4 L_4 R_3 g_m\right) + s^2 \left(C_1 C_3 R_1 R_3 g_m + C_1 C_4 R_1 R_4 g_m + C_3 C_4 R_3 R_4 g_m + C_3 L_3 g_m + C_4 L_4 g_m\right)}{s^4 \left(2C_1 C_3 C_4 L_3 R_1 g_m + 2C_1 C_3 C_4 L_3 + C_1 C_3 C_4 L_4 R_1 g_m + C_1 C_3 C_4 L_4\right) + s^3 \left(2C_1 C_3 C_4 R_1 R_3 g_m + C_1 C_3 C_4 R_1 R_4 g_m + 2C_1 C_3 C_4 R_3 + C_1 C_3 C_4 R_4 + 2C_3 C_4 L_3 g_m + C_3 C_4 L_4 g_m\right) + s^2 \left(C_1 C_3 R_1 g_m + C_1 C_3 + 2C_1 C_4 R_1 g_m + 2C_1 C_4 + 2C_3 C_4 R_3 g_m + C_3 C_4 R_4 g_m \ldots\right)}$

**10.406  INVALID-ORDER-406** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty\right)$

$H(s) = \dfrac{C_1 C_3 L_3 L_4 R_1 R_4 g_m s^4 + L_4 R_4 g_m s + s^3 \left(C_1 C_3 L_4 R_1 R_3 R_4 g_m + \ldots\right)}{2R_4 g_m + s^5 \left(2C_1 C_3 C_4 L_3 L_4 R_1 R_4 g_m + 2C_1 C_3 C_4 L_3 L_4 R_4\right) + s^4 \left(2C_1 C_3 C_4 L_4 R_1 R_3 R_4 g_m + 2C_1 C_3 C_4 L_4 R_3 R_4 + 2C_1 C_3 L_3 L_4 R_1 g_m + 2C_1 C_3 L_3 L_4 + 2C_3 C_4 L_3 L_4 R_4 g_m\right) + s^3 \left(2C_1 C_3 L_3 R_1 R_4 g_m + 2C_1 C_3 L_3 R_4 + 2C_1 C_3 L_4 R_1 R_3 g_m + C_1 C_3 L_4 R_1 R_4 g_m + 2C_1 C_3 L_4 R_3 + \ldots\right)}$

**10.407  INVALID-ORDER-407** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$H(s) = \dfrac{C_1 C_3 C_4 L_3 L_4 R_1 R_4 g_m s^5 + R_4 g_m + s^4 \left(C_1 C_3 C_4 L_4 R_1 R_3 R_4 g_m + C_1 C_3 L_3 L_4 R_1 g_m + C_3 C_4 L_3 L_4 R_4 g_m\right) + s^3 \left(C_1 C_3 L_3 R_1 R_4 g_m + C_1 C_3 L_4 R_1 R_3 g_m + C_1 C_4 L_4 R_1 R_4 g_m + C_3 C_4 L_4 R_3 R_4 g_m + C_3 L_3 L_4 g_m\right) + s^2 \left(C_1 C_3 R_1 \ldots\right)}{2g_m + s^5 \left(2C_1 C_3 C_4 L_3 L_4 R_1 g_m + 2C_1 C_3 C_4 L_3 L_4\right) + s^4 \left(2C_1 C_3 C_4 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_4 R_1 R_4 g_m + 2C_1 C_3 C_4 L_4 R_3 + C_1 C_3 C_4 L_4 R_4 + 2C_3 C_4 L_3 L_4 g_m\right) + s^3 \left(2C_1 C_3 L_3 R_1 g_m + 2C_1 C_3 L_3 + C_1 C_3 L_4 R_1 g_m + C_1 C_3 L_4 + 2C_1 C_4 L_4 R_1 g_m + 2C_1 C_4 L_4 + 2C_3 C_4 L_4 R_3 g_m + \ldots\right)}$

**10.408  INVALID-ORDER-408** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$H(s) = \dfrac{C_1 C_3 C_4 L_3 L_4 R_1 R_4 g_m s^5 + R_4 g_m + s^4 \left(C_1 C_3 C_4 L_4 R_1 R_3 R_4 g_m + C_3 C_4 L_3 L_4 R_4 g_m\right) + s^3 \left(C_1 C_3 L_3 R_1 R_4 g_m + \ldots\right)}{2g_m + s^5 \left(2C_1 C_3 C_4 L_3 L_4 R_1 g_m + 2C_1 C_3 C_4 L_3 L_4\right) + s^4 \left(2C_1 C_3 C_4 L_3 R_1 R_4 g_m + 2C_1 C_3 C_4 L_3 R_4 + 2C_1 C_3 C_4 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_4 R_1 R_4 g_m + 2C_1 C_3 C_4 L_4 R_3 + C_1 C_3 C_4 L_4 R_4 + 2C_3 C_4 L_3 L_4 g_m\right) + s^3 \left(2C_1 C_3 C_4 R_1 R_3 R_4 g_m + 2C_1 C_3 C_4 R_3 R_4 + 2C_1 C_3 L_3 R_1 g_m + 2C_1 C_3 \ldots\right)}$

**10.409  INVALID-ORDER-409** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ R_4, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_3 R_1 R_3 R_4 g_m s^2 + L_3 R_3 R_4 g_m s}{R_3 R_4 g_m + s^3 \left(C_1 C_3 L_3 R_1 R_3 R_4 g_m + C_1 C_3 L_3 R_3 R_4\right) + s^2 \left(2C_1 L_3 R_1 R_3 g_m + C_1 L_3 R_1 R_4 g_m + 2C_1 L_3 R_3 + C_1 L_3 R_4 + C_3 L_3 R_3 R_4 g_m\right) + s \left(C_1 R_1 R_3 R_4 g_m + C_1 R_3 R_4 + 2L_3 R_3 g_m + L_3 R_4 g_m\right)}$$

**10.410  INVALID-ORDER-410** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_3 R_1 R_3 g_m s^2 + L_3 R_3 g_m s}{R_3 g_m + s^3 \left(C_1 C_3 L_3 R_1 R_3 g_m + C_1 C_3 L_3 R_3 + 2C_1 C_4 L_3 R_1 R_3 g_m + 2C_1 C_4 L_3 R_3\right) + s^2 \left(C_1 L_3 R_1 g_m + C_1 L_3 + C_3 L_3 R_3 g_m + 2C_4 L_3 R_3 g_m\right) + s \left(C_1 R_1 R_3 g_m + C_1 R_3 + L_3 g_m\right)}$$

**10.411  INVALID-ORDER-411** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_3 R_1 R_3 R_4 g_m s^2 + L_3 R_3 R_4 g_m s}{R_3 R_4 g_m + s^3 \left(C_1 C_3 L_3 R_1 R_3 R_4 g_m + C_1 C_3 L_3 R_3 R_4 + 2C_1 C_4 L_3 R_1 R_3 R_4 g_m + 2C_1 C_4 L_3 R_3 R_4\right) + s^2 \left(2C_1 L_3 R_1 R_3 g_m + C_1 L_3 R_1 R_4 g_m + 2C_1 L_3 R_3 + C_1 L_3 R_4 + C_3 L_3 R_3 R_4 g_m + 2C_4 L_3 R_3 R_4 g_m\right) + s \left(C_1 R_1 R_3 R_4 g_m + C_1 R_3 R_4 + 2L_3 R_3 g_m + L_3 R_4 g_m\right)}$$

**10.412  INVALID-ORDER-412** $Z(s) = \left(R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$H(s) = \dfrac{C_1 C_4 L_3 R_1 R_3 R_4 g_m s^3 + L_3 R_3 g_m s + s^2 \left(C_1 L_3 R_1 R_3 g_m + C_4 L_3 R_3 R_4 g_m\right)}{R_3 g_m + s^4 \left(C_1 C_3 C_4 L_3 R_1 R_3 R_4 g_m + C_1 C_3 C_4 L_3 R_3 R_4\right) + s^3 \left(C_1 C_3 L_3 R_1 R_3 g_m + C_1 C_3 L_3 R_3 + 2C_1 C_4 L_3 R_1 R_3 g_m + C_1 C_4 L_3 R_1 R_4 g_m + 2C_1 C_4 L_3 R_3 + C_1 C_4 L_3 R_4 + C_3 C_4 L_3 R_3 R_4 g_m\right) + s^2 \left(C_1 C_4 R_1 R_3 R_4 g_m + C_1 C_4 R_3 R_4 + C_1 L_3 R_1 g_m + C_1 L_3 + C_3 L_3 R_3 g_m + 2C_4 L_3 \ldots\right)}$

**10.413  INVALID-ORDER-413** $Z(s) = \left( R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_4 L_3 L_4 R_1 R_3 g_m s^4 + C_1 L_3 R_1 R_3 g_m s^2 + C_4 L_3 L_4 R_3 g_m s^3 + L_3 R_3 g_m s}{R_3 g_m + s^5 \left(C_1 C_3 C_4 L_3 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_3 L_4 R_3\right) + s^4 \left(C_1 C_4 L_3 L_4 R_1 g_m + C_1 C_4 L_3 L_4 + C_3 C_4 L_3 L_4 R_3 g_m\right) + s^3 \left(C_1 C_3 L_3 R_1 R_3 g_m + C_1 C_3 L_3 R_3 + 2 C_1 C_4 L_3 R_1 R_3 g_m + 2 C_1 C_4 L_3 R_3 + C_1 C_4 L_4 R_1 R_3 g_m + C_1 C_4 L_4 R_3 + C_4 L_3 L_4 g_m\right) + s^2 \left(C_1 L_3 R_1 g_m + C_1 L_3 + C_3 \cdots\right)}$$

**10.414  INVALID-ORDER-414** $Z(s) = \left( R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 L_3 L_4 R_1 R_3 g_m s^2 + L_3 L_4 R_3 g_m s}{2 L_3 R_3 g_m + L_4 R_3 g_m + s^3 \left(C_1 C_3 L_3 L_4 R_1 R_3 g_m + C_1 C_3 L_3 L_4 R_3 + 2 C_1 C_4 L_3 L_4 R_1 R_3 g_m + 2 C_1 C_4 L_3 L_4 R_3\right) + s^2 \left(C_1 L_3 L_4 R_1 g_m + C_1 L_3 L_4 + C_3 L_3 L_4 R_3 g_m + 2 C_4 L_3 L_4 R_3 g_m\right) + s \left(2 C_1 L_3 R_1 R_3 g_m + 2 C_1 L_3 R_3 + C_1 L_4 R_1 R_3 g_m + C_1 L_4 R_3 + L_3 L_4 g_m\right)}$$

**10.415  INVALID-ORDER-415** $Z(s) = \left( R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_4 L_3 L_4 R_1 R_3 g_m s^4 + L_3 R_3 g_m s + s^3 \left(C_1 C_4 L_3 R_1 R_3 R_4 g_m + C_4 L_3 L_4 R_3 \cdots\right)}{R_3 g_m + s^5 \left(C_1 C_3 C_4 L_3 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_3 L_4 R_3\right) + s^4 \left(C_1 C_3 C_4 L_3 R_1 R_3 R_4 g_m + C_1 C_3 C_4 L_3 R_3 R_4 + C_1 C_4 L_3 L_4 R_1 g_m + C_1 C_4 L_3 L_4 + C_3 C_4 L_3 L_4 R_3 g_m\right) + s^3 \left(C_1 C_3 L_3 R_1 R_3 g_m + C_1 C_3 L_3 R_3 + 2 C_1 C_4 L_3 R_1 R_3 g_m + C_1 C_4 L_3 R_1 R_4 g_m + 2 C_1 C_4 L_3 R_3 + C_1 C_4 L_3 R_4 + \cdots\right)}$$

**10.416  INVALID-ORDER-416** $Z(s) = \left( R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 L_3 L_4 R_1 R_3 R_4 g_m s^2 + L_3 L_4 R_3 R_4 g_m s}{2 L_3 R_3 R_4 g_m + L_4 R_3 R_4 g_m + s^3 \left(C_1 C_3 L_3 L_4 R_1 R_3 R_4 g_m + C_1 C_3 L_3 L_4 R_3 R_4 + 2 C_1 C_4 L_3 L_4 R_1 R_3 R_4 g_m + 2 C_1 C_4 L_3 L_4 R_3 R_4\right) + s^2 \left(2 C_1 L_3 L_4 R_1 R_3 g_m + C_1 L_3 L_4 R_1 R_4 g_m + 2 C_1 L_3 L_4 R_3 + C_1 L_3 L_4 R_4 + C_3 L_3 L_4 R_3 R_4 g_m + 2 C_4 L_3 L_4 R_3 R_4 g_m\right) + s \left(2 C_1 L_3 R_1 R_3 R_4 g_m + 2 C \cdots\right)}$$

**10.417  INVALID-ORDER-417** $Z(s) = \left( R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_4 L_3 L_4 R_1 R_3 R_4 g_m s^4 + L_3 R_3 R_4 g_m s \cdots}{R_3 R_4 g_m + s^5 \left(C_1 C_3 C_4 L_3 L_4 R_1 R_3 R_4 g_m + C_1 C_3 C_4 L_3 L_4 R_3 R_4\right) + s^4 \left(C_1 C_3 L_3 L_4 R_1 R_3 g_m + C_1 C_3 L_3 L_4 R_3 + 2 C_1 C_4 L_3 L_4 R_1 R_3 g_m + C_1 C_4 L_3 L_4 R_1 R_4 g_m + 2 C_1 C_4 L_3 L_4 R_3 + C_1 C_4 L_3 L_4 R_4 + C_3 C_4 L_3 L_4 R_3 R_4 g_m\right) + s^3 \left(C_1 C_3 L_3 R_1 R_3 R_4 g_m + C_1 C_3 L_3 R_3 R_4 + C_1 C_4 L_4 R_1 \cdots\right)}$$

**10.418  INVALID-ORDER-418** $Z(s) = \left( R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{R_4 \left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_4 L_3 L_4 R_1 R_3 R_4 g_m s^4 + C_1 L_3 R_1 R_3 R_4 g_m s^2 + C_4 L_3 L_4 \cdots}{R_3 R_4 g_m + s^5 \left(C_1 C_3 C_4 L_3 L_4 R_1 R_3 R_4 g_m + C_1 C_3 C_4 L_3 L_4 R_3 R_4\right) + s^4 \left(2 C_1 C_4 L_3 L_4 R_1 R_3 g_m + C_1 C_4 L_3 L_4 R_1 R_4 g_m + 2 C_1 C_4 L_3 L_4 R_3 + C_1 C_4 L_3 L_4 R_4 + C_3 C_4 L_3 L_4 R_3 R_4 g_m\right) + s^3 \left(C_1 C_3 L_3 R_1 R_3 R_4 g_m + C_1 C_3 L_3 R_3 R_4 + 2 C_1 C_4 L_3 R_1 R_3 R_4 g_m + 2 C_1 C_4 L_3 R_3 R_4 + C_1 C_4 L_4 \cdots\right)}$$

**10.419  INVALID-ORDER-419** $Z(s) = \left( R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 L_3 R_1 R_3 R_4 g_m s^3 + R_3 R_4 g_m + s^2 \left(C_1 L_3 R_1 R_4 g_m + C_3 L_3 R_3 R_4 g_m\right) + s \left(C_1 R_1 R_3 R_4 g_m + L_3 R_4 g_m\right)}{2 R_3 g_m + R_4 g_m + s^3 \left(2 C_1 C_3 L_3 R_1 R_3 g_m + C_1 C_3 L_3 R_1 R_4 g_m + 2 C_1 C_3 L_3 R_3 + C_1 C_3 L_3 R_4\right) + s^2 \left(2 C_1 L_3 R_1 g_m + 2 C_1 L_3 + 2 C_3 L_3 R_3 g_m + C_3 L_3 R_4 g_m\right) + s \left(2 C_1 R_1 R_3 g_m + C_1 R_1 R_4 g_m + 2 C_1 R_3 + C_1 R_4 + 2 L_3 g_m\right)}$$

**10.420  INVALID-ORDER-420** $Z(s) = \left( R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 L_3 R_1 R_3 g_m s^3 + R_3 g_m + s^2 \left(C_1 L_3 R_1 g_m + C_3 L_3 R_3 g_m\right) + s \left(C_1 R_1 R_3 g_m + L_3 g_m\right)}{g_m + s^4 \left(2 C_1 C_3 C_4 L_3 R_1 R_3 g_m + 2 C_1 C_3 C_4 L_3 R_3\right) + s^3 \left(C_1 C_3 L_3 R_1 g_m + C_1 C_3 L_3 + 2 C_1 C_4 L_3 R_1 g_m + 2 C_1 C_4 L_3 + 2 C_3 C_4 L_3 R_3 g_m\right) + s^2 \left(2 C_1 C_4 R_1 R_3 g_m + 2 C_1 C_4 R_3 + C_3 L_3 g_m + 2 C_4 L_3 g_m\right) + s \left(C_1 R_1 g_m + C_1 + 2 C_4 R_3 g_m\right)}$$

**10.421  INVALID-ORDER-421** $Z(s) = \left( R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 L_3 R_1 R_3 R_4 g_m s^3 + R_3 R_4 g_m + s^2 \left(C_1 L_3 R_1 R_4 g_m + C_3 L_3 R_3 R_4 g_m\right) + s \left(C_1 R_1 R_3 R_4 g_m + L_3 R_4 g_m\right)}{2 R_3 g_m + R_4 g_m + s^4 \left(2 C_1 C_3 C_4 L_3 R_1 R_3 R_4 g_m + 2 C_1 C_3 C_4 L_3 R_3 R_4\right) + s^3 \left(2 C_1 C_3 L_3 R_1 R_3 g_m + C_1 C_3 L_3 R_1 R_4 g_m + 2 C_1 C_3 L_3 R_3 + C_1 C_3 L_3 R_4 + 2 C_1 C_4 L_3 R_1 R_4 g_m + 2 C_1 C_4 L_3 R_4 + 2 C_3 C_4 L_3 R_3 R_4 g_m\right) + s^2 \left(2 C_1 C_4 R_1 R_3 R_4 g_m + 2 C_1 C_4 R_3 R_4 + 2 C_1 L_3 R_1 g_m + 2 C_1 L_3 + \cdots\right)}$$

**10.422   INVALID-ORDER-422** $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1},\ R_4 + \frac{1}{C_4 s},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 L_3 R_1 R_3 R_4 g_m s^4 + R_3 g_m + s^3\left(C_1 C_3 L_3 R_1 R_3 g_m + C_1 C_4 L_3 R_1 R_4 g_m + C_3 C_4 L_3 R_3 R_4 g_m\right) + s^2\left(C_1 C_4 R_1 R_3 R_4 g_m + C_1 L_3 R_1 g_m + C_3 L_3 R_3 g_m + C_4 L_3 R_4 g_m\right) + s\left(C_1 R_1 R_3 g_m + C_4 R_3 R_4 g_m + L_3 g_m\right)}{g_m + s^4\left(2 C_1 C_3 C_4 L_3 R_1 R_3 g_m + C_1 C_3 C_4 L_3 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_3 R_3 + C_1 C_3 C_4 L_3 R_4\right) + s^3\left(C_1 C_3 L_3 R_1 g_m + C_1 C_3 L_3 + 2 C_1 C_4 L_3 R_1 g_m + 2 C_1 C_4 L_3 + 2 C_3 C_4 L_3 R_3 g_m + C_3 C_4 L_3 R_4 g_m\right) + s^2\left(2 C_1 C_4 R_1 R_3 g_m + C_1 C_4 R_1 R_4 g_m + 2 C_1 C_4 R_3 + C_1 C_4 R_4 + C_3 L_3 g_m + 2 C_4 \ldots\right)}$$

**10.423   INVALID-ORDER-423** $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1},\ L_4 s + \frac{1}{C_4 s},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 L_3 L_4 R_1 R_3 g_m s^5 + R_3 g_m + s^4\left(C_1 C_4 L_3 L_4 R_1 g_m + C_3 C_4 L_3 L_4 R_3 g_m\right) + s^3\left(C_1 C_3 L_3 R_1 R_3 g_m + C_1 C_4 L_4 R_1 R_3 g_m + C_4 L_3 L_4 g_m\right) + s^2\left(C_1 L_3 R_1 g_m + C_3 L_3 R_3 g_m + C_4 L_4 R_3 g_m\right) + s\left(C_1 R_1 R_3 g_m + L_3 g_m\right)}{g_m + s^5\left(C_1 C_3 C_4 L_3 L_4 R_1 g_m + C_1 C_3 C_4 L_3 L_4\right) + s^4\left(2 C_1 C_3 C_4 L_3 R_1 R_3 g_m + 2 C_1 C_3 C_4 L_3 R_3 + C_3 C_4 L_3 L_4 g_m\right) + s^3\left(C_1 C_3 L_3 R_1 g_m + C_1 C_3 L_3 + 2 C_1 C_4 L_3 R_1 g_m + 2 C_1 C_4 L_3 + C_1 C_4 L_4 R_1 g_m + C_1 C_4 L_4 + 2 C_3 C_4 L_3 R_3 g_m\right) + s^2\left(2 C_1 C_4 R_1 R_3 g_m + 2 C_1 C_4 R_3 + C_3 L_3 g_m + \ldots\right)}$$

**10.424   INVALID-ORDER-424** $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1},\ \frac{L_4 s}{C_4 L_4 s^2 + 1},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_1 C_3 L_3 L_4 R_1 R_3 g_m s^4 + L_4 R_3 g_m s + s^3\left(C_1 L_3 L_4 R_1 g_m + C_3 L_3 L_4 R_3 g_m\right) + s^2\left(C_1 L_4 R_1 R_3 g_m + L_3 L_4 g_m\right)}{2 R_3 g_m + s^5\left(2 C_1 C_3 C_4 L_3 L_4 R_1 R_3 g_m + 2 C_1 C_3 C_4 L_3 L_4 R_3\right) + s^4\left(C_1 C_3 L_3 L_4 R_1 g_m + C_1 C_3 L_3 L_4 + 2 C_1 C_4 L_3 L_4 R_1 g_m + 2 C_1 C_4 L_3 L_4 + 2 C_3 C_4 L_3 L_4 R_3 g_m\right) + s^3\left(2 C_1 C_3 L_3 R_1 R_3 g_m + 2 C_1 C_3 L_3 R_3 + 2 C_1 C_4 L_4 R_1 R_3 g_m + 2 C_1 C_4 L_4 R_3 + C_3 L_3 L_4 g_m + 2 C_4 L_3 L_4 g_m\right) + s^2\left(2 C_1 \ldots\right)}$$

**10.425   INVALID-ORDER-425** $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1},\ L_4 s + R_4 + \frac{1}{C_4 s},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 L_3 L_4 R_1 R_3 g_m s^5 + R_3 g_m + s^4\left(C_1 C_3 C_4 L_3 R_1 R_3 R_4 g_m + C_1 C_4 L_3 L_4 R_1 g_m + C_3 C_4 L_3 L_4 R_3 g_m\right) + s^3\left(C_1 C_3 L_3 R_1 R_3 g_m + C_1 C_4 L_3 R_1 R_4 g_m + C_1 C_4 L_4 R_1 R_3 g_m + C_3 C_4 L_3 R_3 R_4 g_m + C_4 L_3 L_4 g_m\right) + s^2\left(C_1 C_4 R_1 R_3 \ldots\right)}{g_m + s^5\left(C_1 C_3 C_4 L_3 L_4 R_1 g_m + C_1 C_3 C_4 L_3 L_4\right) + s^4\left(2 C_1 C_3 C_4 L_3 R_1 R_3 g_m + C_1 C_3 C_4 L_3 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_3 R_3 + C_1 C_3 C_4 L_3 R_4 + C_3 C_4 L_3 L_4 g_m\right) + s^3\left(C_1 C_3 L_3 R_1 g_m + C_1 C_3 L_3 + 2 C_1 C_4 L_3 R_1 g_m + 2 C_1 C_4 L_3 + C_1 C_4 L_4 R_1 g_m + C_1 C_4 L_4 + 2 C_3 C_4 L_3 R_3 g_m + C_3 C_4 L \ldots\right)}$$

**10.426   INVALID-ORDER-426** $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1},\ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_1 C_3 L_3 L_4 R_1 R_3 R_4 g_m s^4 + \ldots}{2 R_3 R_4 g_m + s^5\left(2 C_1 C_3 C_4 L_3 L_4 R_1 R_3 R_4 g_m + 2 C_1 C_3 C_4 L_3 L_4 R_3 R_4\right) + s^4\left(2 C_1 C_3 L_3 L_4 R_1 R_3 g_m + C_1 C_3 L_3 L_4 R_1 R_4 g_m + 2 C_1 C_3 L_3 L_4 R_3 + C_1 C_3 L_3 L_4 R_4 + 2 C_1 C_4 L_3 L_4 R_1 R_4 g_m + 2 C_1 C_4 L_3 L_4 R_4 + 2 C_3 C_4 L_3 L_4 R_3 R_4 g_m\right) + s^3\left(2 C_1 C_3 L_3 R_1 R_3 R_4 g_m + 2 C_1 C_3 L_3 R_3 R_4 + 2 \ldots\right)}$$

**10.427   INVALID-ORDER-427** $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1},\ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 L_3 L_4 R_1 R_3 R_4 g_m s^5 + R_3 R_4 g_m + s^4\left(C_1 C_3 L_3 L_4 R_1 R_3 g_m + C_1 C_4 L_3 L_4 R_1 R_4 g_m + C_3 C_4 L_3 L_4 R_3 R_4 g_m\right) + s^3\left(C_1 C_3 L_3 R_1 R_3 R_4 g_m + C_1 C_4 \ldots\right)}{2 R_3 g_m + R_4 g_m + s^5\left(2 C_1 C_3 C_4 L_3 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_3 L_4 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_3 L_4 R_3 + C_1 C_3 C_4 L_3 L_4 R_4\right) + s^4\left(C_1 C_3 L_3 L_4 R_1 g_m + C_1 C_3 L_3 L_4 + 2 C_1 C_4 L_3 L_4 R_1 g_m + 2 C_1 C_4 L_3 L_4 + 2 C_3 C_4 L_3 L_4 R_3 g_m + C_3 C_4 L_3 L_4 R_4 g_m\right) + s^3\left(2 C_1 C_3 L_3 R_1 R_3 g_m + C_1 C_3 L_3 R_1 R_4 \ldots\right)}$$

**10.428   INVALID-ORDER-428** $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1},\ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 L_3 L_4 R_1 R_3 R_4 g_m s^5 + R_3 R_4 g_m + s^4\left(C_1 C_4 \ldots\right)}{2 R_3 g_m + R_4 g_m + s^5\left(2 C_1 C_3 C_4 L_3 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_3 L_4 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_3 L_4 R_3 + C_1 C_3 C_4 L_3 L_4 R_4\right) + s^4\left(2 C_1 C_3 C_4 L_3 R_1 R_3 R_4 g_m + 2 C_1 C_3 C_4 L_3 R_3 R_4 + 2 C_1 C_4 L_3 L_4 R_1 g_m + 2 C_1 C_4 L_3 L_4 + 2 C_3 C_4 L_3 L_4 R_3 g_m + C_3 C_4 L_3 L_4 R_4 g_m\right) + s^3\left(2 C_1 C_3 L_3 R_1 R_3 g_m + \ldots\right)}$$

**10.429   INVALID-ORDER-429** $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1},\ R_4,\ \infty,\ \infty\right)$

$$H(s) = \frac{C_1 C_3 L_3 R_1 R_3 R_4 g_m s^3 + C_1 R_1 R_3 R_4 g_m s + C_3 L_3 R_3 R_4 g_m s^2 + R_3 R_4 g_m}{2 R_3 g_m + R_4 g_m + s^3\left(2 C_1 C_3 L_3 R_1 R_3 g_m + C_1 C_3 L_3 R_1 R_4 g_m + 2 C_1 C_3 L_3 R_3 + C_1 C_3 L_3 R_4\right) + s^2\left(C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4 + 2 C_3 L_3 R_3 g_m + C_3 L_3 R_4 g_m\right) + s\left(2 C_1 R_1 R_3 g_m + C_1 R_1 R_4 g_m + 2 C_1 R_3 + C_1 R_4 + C_3 R_3 R_4 g_m\right)}$$

**10.430   INVALID-ORDER-430** $Z(s) = \left(R_1 + \frac{1}{C_1 s},\ \infty,\ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1},\ \frac{1}{C_4 s},\ \infty,\ \infty\right)$

$$H(s) = \frac{C_1 C_3 L_3 R_1 R_3 g_m s^3 + C_1 R_1 R_3 g_m s + C_3 L_3 R_3 g_m s^2 + R_3 g_m}{g_m + s^4\left(2 C_1 C_3 C_4 L_3 R_1 R_3 g_m + 2 C_1 C_3 C_4 L_3 R_3\right) + s^3\left(C_1 C_3 L_3 R_1 g_m + C_1 C_3 L_3 + 2 C_3 C_4 L_3 R_3 g_m\right) + s^2\left(C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_3 + 2 C_1 C_4 R_1 R_3 g_m + 2 C_1 C_4 R_3 + C_3 L_3 g_m\right) + s\left(C_1 R_1 g_m + C_1 + C_3 R_3 g_m + 2 C_4 R_3 g_m\right)}$$

**10.431 INVALID-ORDER-431** $Z(s) = \left( R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 L_3 R_1 R_3 R_4 g_m s^3 + C_1 R_1 R_3 R_4 g_m s + C_3 L_3 R_3 R_4 g_m s^2 + R_3 R_4 g_m}{2R_3 g_m + R_4 g_m + s^4 \left(2C_1 C_3 C_4 L_3 R_1 R_3 R_4 g_m + 2C_1 C_3 C_4 L_3 R_3 R_4\right) + s^3 \left(2C_1 C_3 L_3 R_1 R_3 g_m + C_1 C_3 L_3 R_1 R_4 g_m + 2C_1 C_3 L_3 R_3 + C_1 C_3 L_3 R_4 + 2C_3 C_4 L_3 R_3 R_4 g_m\right) + s^2 \left(C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4 + 2C_1 C_4 R_1 R_3 R_4 g_m + 2C_1 C_4 R_3 R_4 + 2C_3 L_3 R_3 g_m + C_3 L_3 R_4 g_m \cdots}$$

**10.432 INVALID-ORDER-432** $Z(s) = \left( R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 C_4 L_3 R_1 R_3 R_4 g_m s^4 + R_3 g_m + s^3 \left(C_1 C_3 L_3 R_1 R_3 g_m + C_3 C_4 L_3 R_3 R_4 g_m\right) + s^2 \left(C_1 C_4 R_1 R_3 R_4 g_m + C_3 L_3 R_3 g_m\right) + s \left(C_1 R_1 R_3 g_m + C_4 R_3 R_4 g_m\right)}{g_m + s^4 \left(2C_1 C_3 C_4 L_3 R_1 R_3 g_m + C_1 C_3 C_4 L_3 R_1 R_4 g_m + 2C_1 C_3 C_4 L_3 R_3 + C_1 C_3 C_4 L_3 R_4\right) + s^3 \left(C_1 C_3 C_4 R_1 R_3 R_4 g_m + C_1 C_3 C_4 R_3 R_4 + C_1 C_3 L_3 R_1 g_m + C_1 C_3 L_3 + 2C_3 C_4 L_3 R_3 g_m + C_3 C_4 L_3 R_4 g_m\right) + s^2 \left(C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_3 + 2C_1 C_4 R_1 R_3 g_m + C_1 C_4 R_1 R_4 g_m + 2 \cdots\right)}$$

**10.433 INVALID-ORDER-433** $Z(s) = \left( R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 C_4 L_3 L_4 R_1 R_3 g_m s^5 + C_1 R_1 R_3 g_m s + C_3 C_4 L_3 L_4 R_3 g_m s^4 + R_3 g_m + s^3 \left(C_1 C_3 L_3 R_1 R_3 g_m + C_1 C_4 L_4 R_1 R_3 g_m\right) + s^2 \left(C_3 L_3 R_3 g_m + C_4 L_4 R_3 g_m\right)}{g_m + s^5 \left(C_1 C_3 C_4 L_3 L_4 R_1 g_m + C_1 C_3 C_4 L_3 L_4\right) + s^4 \left(2C_1 C_3 C_4 L_3 R_1 R_3 g_m + 2C_1 C_3 C_4 L_3 R_3 + C_1 C_3 C_4 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_4 R_3 + C_3 C_4 L_3 L_4 g_m\right) + s^3 \left(C_1 C_3 L_3 R_1 g_m + C_1 C_3 L_3 + C_1 C_4 L_4 R_1 g_m + C_1 C_4 L_4 + 2C_3 C_4 L_3 R_3 g_m + C_3 C_4 L_4 R_3 g_m\right) + s^2 \left(C_1 C_3 R_1 R_3 g_m + \cdots\right)}$$

**10.434 INVALID-ORDER-434** $Z(s) = \left( R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 L_3 L_4 R_1 R_3 g_m s^4 + C_1 L_4 R_1 R_3 g_m s^2 + C_3 L_3 L_4 R_3 g_m s^3 + L_4 R_3 g_m s}{2R_3 g_m + s^5 \left(2C_1 C_3 C_4 L_3 L_4 R_1 R_3 g_m + 2C_1 C_3 C_4 L_3 L_4 R_3\right) + s^4 \left(C_1 C_3 L_3 L_4 R_1 g_m + C_1 C_3 L_3 L_4 + 2C_3 C_4 L_3 L_4 R_3 g_m\right) + s^3 \left(2C_1 C_3 L_3 R_1 R_3 g_m + 2C_1 C_3 L_3 R_3 + C_1 C_3 L_4 R_1 R_3 g_m + C_1 C_3 L_4 R_3 + 2C_1 C_4 L_4 R_1 R_3 g_m + 2C_1 C_4 L_4 R_3 + C_3 L_3 L_4 g_m\right) + s^2 \left(C_1 L_4 R_1 g_m + C_1 L_4 \cdots\right)}$$

**10.435 INVALID-ORDER-435** $Z(s) = \left( R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 C_4 L_3 L_4 R_1 R_3 g_m s^5 + R_3 g_m + s^4 \left(C_1 C_3 C_4 L_3 R_1 R_3 R_4 g_m + C_3 C_4 L_3 L_4 R_3 g_m\right) + s^3 \left(C_1 C_3 L_3 R_1 R_3 g_m + C_1 C_4 L_4 R \cdots\right)}{g_m + s^5 \left(C_1 C_3 C_4 L_3 L_4 R_1 g_m + C_1 C_3 C_4 L_3 L_4\right) + s^4 \left(2C_1 C_3 C_4 L_3 R_1 R_3 g_m + C_1 C_3 C_4 L_3 R_1 R_4 g_m + 2C_1 C_3 C_4 L_3 R_3 + C_1 C_3 C_4 L_3 R_4 + C_1 C_3 C_4 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_4 R_3 + C_3 C_4 L_3 L_4 g_m\right) + s^3 \left(C_1 C_3 C_4 R_1 R_3 R_4 g_m + C_1 C_3 C_4 R_3 R_4 + C_1 C_3 L_3 R_1 g_m + C_1 C_3 L_3 + C_1 C_2 \cdots\right)}$$

**10.436 INVALID-ORDER-436** $Z(s) = \left( R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 L_3 L_4 R_1 R_3 R_4 g_m s^4 + C_1 L_4 R_1 R_3 R_4 g_m s^2 + C_3 \cdots}{2R_3 R_4 g_m + s^5 \left(2C_1 C_3 C_4 L_3 L_4 R_1 R_3 R_4 g_m + 2C_1 C_3 C_4 L_3 L_4 R_3 R_4\right) + s^4 \left(2C_1 C_3 L_3 L_4 R_1 R_3 g_m + C_1 C_3 L_3 L_4 R_1 R_4 g_m + 2C_1 C_3 L_3 L_4 R_3 + C_1 C_3 L_3 L_4 R_4 + 2C_3 C_4 L_3 L_4 R_3 R_4 g_m\right) + s^3 \left(2C_1 C_3 L_3 R_1 R_3 R_4 g_m + 2C_1 C_3 L_3 R_3 R_4 + C_1 C_3 L_4 R_1 R_3 R_4 g_m + C_1 C_3 L_4 R_3 R_4 + 2C \cdots\right)}$$

**10.437 INVALID-ORDER-437** $Z(s) = \left( R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 C_4 L_3 L_4 R_1 R_3 R_4 g_m s^5 + R_3 R_4 g_m + s^4 \left(C_1 C_3 L_3 L_4 R_1 \cdots\right)}{2R_3 g_m + R_4 g_m + s^5 \left(2C_1 C_3 C_4 L_3 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_3 L_4 R_1 R_4 g_m + 2C_1 C_3 C_4 L_3 L_4 R_3 + C_1 C_3 C_4 L_3 L_4 R_4\right) + s^4 \left(C_1 C_3 C_4 L_4 R_1 R_3 R_4 g_m + C_1 C_3 C_4 L_4 R_3 R_4 + C_1 C_3 L_3 L_4 R_1 g_m + C_1 C_3 L_3 L_4 + 2C_3 C_4 L_3 L_4 R_3 g_m + C_3 C_4 L_3 L_4 R_4 g_m\right) + s^3 \left(2C_1 C_3 L_3 R_1 R_3 g_m + C_1 C \cdots\right)}$$

**10.438 INVALID-ORDER-438** $Z(s) = \left( R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 C_4 L_3 L_4 R_1 R_3 R_4 g_m s^5 \cdots}{2R_3 g_m + R_4 g_m + s^5 \left(2C_1 C_3 C_4 L_3 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_3 L_4 R_1 R_4 g_m + 2C_1 C_3 C_4 L_3 L_4 R_3 + C_1 C_3 C_4 L_3 L_4 R_4\right) + s^4 \left(2C_1 C_3 C_4 L_3 R_1 R_3 R_4 g_m + 2C_1 C_3 C_4 L_3 R_3 R_4 + C_1 C_3 C_4 L_4 R_1 R_3 R_4 g_m + C_1 C_3 C_4 L_4 R_3 R_4 + 2C_3 C_4 L_3 L_4 R_3 g_m + C_3 C_4 L_3 L_4 R_4 g_m\right) + s^3 \left(2C_1 C_3 R \cdots\right)}$$

**10.439 INVALID-ORDER-439** $Z(s) = \left( L_1 s + \frac{1}{C_1 s}, \ \infty, \ R_3, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 L_1 R_3 g_m s^2 + R_3 g_m}{2C_1 C_4 L_1 R_3 g_m s^3 + g_m + s^2 \left(2C_1 C_4 R_3 + C_1 L_1 g_m\right) + s \left(C_1 + 2C_4 R_3 g_m\right)}$$

**10.440**  **INVALID-ORDER-440** $Z(s) = \left( L_1 s + \frac{1}{C_1 s}, \ \infty, \ R_3, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 L_1 R_3 R_4 g_m s^2 + R_3 R_4 g_m}{2C_1 C_4 L_1 R_3 R_4 g_m s^3 + 2R_3 g_m + R_4 g_m + s^2 \left(2C_1 C_4 R_3 R_4 + 2C_1 L_1 R_3 g_m + C_1 L_1 R_4 g_m\right) + s\left(2C_1 R_3 + C_1 R_4 + 2C_4 R_3 R_4 g_m\right)}$$

**10.441**  **INVALID-ORDER-441** $Z(s) = \left( L_1 s + \frac{1}{C_1 s}, \ \infty, \ R_3, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_4 L_1 R_3 R_4 g_m s^3 + C_1 L_1 R_3 g_m s^2 + C_4 R_3 R_4 g_m s + R_3 g_m}{g_m + s^3 \left(2C_1 C_4 L_1 R_3 g_m + C_1 C_4 L_1 R_4 g_m\right) + s^2 \left(2C_1 C_4 R_3 + C_1 C_4 R_4 + C_1 L_1 g_m\right) + s\left(C_1 + 2C_4 R_3 g_m + C_4 R_4 g_m\right)}$$

**10.442**  **INVALID-ORDER-442** $Z(s) = \left( L_1 s + \frac{1}{C_1 s}, \ \infty, \ R_3, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_4 L_1 L_4 R_3 g_m s^4 + R_3 g_m + s^2 \left(C_1 L_1 R_3 g_m + C_4 L_4 R_3 g_m\right)}{C_1 C_4 L_1 L_4 g_m s^4 + g_m + s^3 \left(2C_1 C_4 L_1 R_3 g_m + C_1 C_4 L_4\right) + s^2 \left(2C_1 C_4 R_3 + C_1 L_1 g_m + C_4 L_4 g_m\right) + s\left(C_1 + 2C_4 R_3 g_m\right)}$$

**10.443**  **INVALID-ORDER-443** $Z(s) = \left( L_1 s + \frac{1}{C_1 s}, \ \infty, \ R_3, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 L_1 L_4 R_3 g_m s^3 + L_4 R_3 g_m s}{2C_1 C_4 L_1 L_4 R_3 g_m s^4 + 2R_3 g_m + s^3 \left(2C_1 C_4 L_4 R_3 + C_1 L_1 L_4 g_m\right) + s^2 \left(2C_1 L_1 R_3 g_m + C_1 L_4 + 2C_4 L_4 R_3 g_m\right) + s\left(2C_1 R_3 + L_4 g_m\right)}$$

**10.444**  **INVALID-ORDER-444** $Z(s) = \left( L_1 s + \frac{1}{C_1 s}, \ \infty, \ R_3, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_4 L_1 L_4 R_3 g_m s^4 + C_1 C_4 L_1 R_3 R_4 g_m s^3 + C_4 R_3 R_4 g_m s + R_3 g_m + s^2 \left(C_1 L_1 R_3 g_m + C_4 L_4 R_3 g_m\right)}{C_1 C_4 L_1 L_4 g_m s^4 + g_m + s^3 \left(2C_1 C_4 L_1 R_3 g_m + C_1 C_4 L_1 R_4 g_m + C_1 C_4 L_4\right) + s^2 \left(2C_1 C_4 R_3 + C_1 C_4 R_4 + C_1 L_1 g_m + C_4 L_4 g_m\right) + s\left(C_1 + 2C_4 R_3 g_m + C_4 R_4 g_m\right)}$$

**10.445**  **INVALID-ORDER-445** $Z(s) = \left( L_1 s + \frac{1}{C_1 s}, \ \infty, \ R_3, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 L_1 L_4 R_3 R_4 g_m s^3 + L_4 R_3 R_4 g_m s}{2C_1 C_4 L_1 L_4 R_3 R_4 g_m s^4 + 2R_3 R_4 g_m + s^3 \left(2C_1 C_4 L_4 R_3 R_4 + 2C_1 L_1 L_4 R_3 g_m + C_1 L_1 L_4 R_4 g_m\right) + s^2 \left(2C_1 L_1 R_3 R_4 g_m + 2C_1 L_4 R_3 + C_1 L_4 R_4 + 2C_4 L_4 R_3 R_4 g_m\right) + s\left(2C_1 R_3 R_4 + 2L_4 R_3 g_m + L_4 R_4 g_m\right)}$$

**10.446**  **INVALID-ORDER-446** $Z(s) = \left( L_1 s + \frac{1}{C_1 s}, \ \infty, \ R_3, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_4 L_1 L_4 R_3 R_4 g_m s^4 + C_1 L_1 L_4 R_3 g_m s^3 + L_4 R_3 g_m s + R_3 R_4 g_m + s^2 \left(C_1 L_1 R_3 R_4 g_m + C_4 L_4 R_3 R_4 g_m\right)}{2R_3 g_m + R_4 g_m + s^4 \left(2C_1 C_4 L_1 L_4 R_3 g_m + C_1 C_4 L_1 L_4 R_4 g_m\right) + s^3 \left(2C_1 C_4 L_4 R_3 + C_1 C_4 L_4 R_4 + C_1 L_1 L_4 g_m\right) + s^2 \left(2C_1 L_1 R_3 g_m + C_1 L_1 R_4 g_m + C_1 L_4 + 2C_4 L_4 R_3 g_m + C_4 L_4 R_4 g_m\right) + s\left(2C_1 R_3 + C_1 R_4 + L_4 g_m\right)}$$

**10.447**  **INVALID-ORDER-447** $Z(s) = \left( L_1 s + \frac{1}{C_1 s}, \ \infty, \ R_3, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_4 L_1 L_4 R_3 R_4 g_m s^4 + R_3 R_4 g_m + s^2 \left(C_1 L_1 R_3 R_4 g_m + C_4 L_4 R_3 R_4 g_m\right)}{2R_3 g_m + R_4 g_m + s^4 \left(2C_1 C_4 L_1 L_4 R_3 g_m + C_1 C_4 L_1 L_4 R_4 g_m\right) + s^3 \left(2C_1 C_4 L_1 R_3 R_4 g_m + 2C_1 C_4 L_4 R_3 + C_1 C_4 L_4 R_4\right) + s^2 \left(2C_1 C_4 R_3 R_4 + 2C_1 L_1 R_3 g_m + C_1 L_1 R_4 g_m + 2C_4 L_4 R_3 g_m + C_4 L_4 R_4 g_m\right) + s\left(2C_1 R_3 + C_1 R_4 + 2C_4 R_3 R_4 g_m\right)}$$

**10.448**  **INVALID-ORDER-448** $Z(s) = \left( L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{1}{C_3 s}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 L_1 R_4 g_m s^2 + R_4 g_m}{C_1 C_3 L_1 R_4 g_m s^3 + 2g_m + s^2 \left(C_1 C_3 R_4 + 2C_1 L_1 g_m\right) + s\left(2C_1 + C_3 R_4 g_m\right)}$$

**10.449** **INVALID-ORDER-449** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_1 g_m s^2 + g_m}{s^3 \left(C_1 C_3 L_1 g_m + 2 C_1 C_4 L_1 g_m\right) + s^2 \left(C_1 C_3 + 2 C_1 C_4\right) + s \left(C_3 g_m + 2 C_4 g_m\right)}$$

**10.450** **INVALID-ORDER-450** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_1 R_4 g_m s^2 + R_4 g_m}{2 g_m + s^3 \left(C_1 C_3 L_1 R_4 g_m + 2 C_1 C_4 L_1 R_4 g_m\right) + s^2 \left(C_1 C_3 R_4 + 2 C_1 C_4 R_4 + 2 C_1 L_1 g_m\right) + s \left(2 C_1 + C_3 R_4 g_m + 2 C_4 R_4 g_m\right)}$$

**10.451** **INVALID-ORDER-451** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{1}{C_3 s}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_1 R_4 g_m s^3 + C_1 L_1 g_m s^2 + C_4 R_4 g_m s + g_m}{C_1 C_3 C_4 L_1 R_4 g_m s^4 + s^3 \left(C_1 C_3 C_4 R_4 + C_1 C_3 L_1 g_m + 2 C_1 C_4 L_1 g_m\right) + s^2 \left(C_1 C_3 + 2 C_1 C_4 + C_3 C_4 R_4 g_m\right) + s \left(C_3 g_m + 2 C_4 g_m\right)}$$

**10.452** **INVALID-ORDER-452** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_1 L_4 g_m s^4 + g_m + s^2 \left(C_1 L_1 g_m + C_4 L_4 g_m\right)}{C_1 C_3 C_4 L_1 L_4 g_m s^5 + C_1 C_3 C_4 L_4 s^4 + s^3 \left(C_1 C_3 L_1 g_m + 2 C_1 C_4 L_1 g_m + C_3 C_4 L_4 g_m\right) + s^2 \left(C_1 C_3 + 2 C_1 C_4\right) + s \left(C_3 g_m + 2 C_4 g_m\right)}$$

**10.453** **INVALID-ORDER-453** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_1 L_4 g_m s^3 + L_4 g_m s}{2 C_1 s + 2 g_m + s^4 \left(C_1 C_3 L_1 L_4 g_m + 2 C_1 C_4 L_1 L_4 g_m\right) + s^3 \left(C_1 C_3 L_4 + 2 C_1 C_4 L_4\right) + s^2 \left(2 C_1 L_1 g_m + C_3 L_4 g_m + 2 C_4 L_4 g_m\right)}$$

**10.454** **INVALID-ORDER-454** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{1}{C_3 s}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_1 L_4 g_m s^4 + C_1 C_4 L_1 R_4 g_m s^3 + C_4 R_4 g_m s + g_m + s^2 \left(C_1 L_1 g_m + C_4 L_4 g_m\right)}{C_1 C_3 C_4 L_1 L_4 g_m s^5 + s^4 \left(C_1 C_3 C_4 L_1 R_4 g_m + C_1 C_3 C_4 L_4\right) + s^3 \left(C_1 C_3 C_4 R_4 + C_1 C_3 L_1 g_m + 2 C_1 C_4 L_1 g_m + C_3 C_4 L_4 g_m\right) + s^2 \left(C_1 C_3 + 2 C_1 C_4 + C_3 C_4 R_4 g_m\right) + s \left(C_3 g_m + 2 C_4 g_m\right)}$$

**10.455** **INVALID-ORDER-455** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_1 L_4 R_4 g_m s^3 + L_4 R_4 g_m s}{2 R_4 g_m + s^4 \left(C_1 C_3 L_1 L_4 R_4 g_m + 2 C_1 C_4 L_1 L_4 R_4 g_m\right) + s^3 \left(C_1 C_3 L_4 R_4 + 2 C_1 C_4 L_4 R_4 + 2 C_1 L_1 L_4 g_m\right) + s^2 \left(2 C_1 L_1 R_4 g_m + 2 C_1 L_4 + C_3 L_4 R_4 g_m + 2 C_4 L_4 R_4 g_m\right) + s \left(2 C_1 R_4 + 2 L_4 g_m\right)}$$

**10.456** **INVALID-ORDER-456** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_1 L_4 R_4 g_m s^4 + C_1 L_1 L_4 g_m s^3 + L_4 g_m s + R_4 g_m + s^2 \left(C_1 L_1 R_4 g_m + C_4 L_4 R_4 g_m\right)}{C_1 C_3 C_4 L_1 L_4 R_4 g_m s^5 + 2 g_m + s^4 \left(C_1 C_3 C_4 L_4 R_4 + C_1 C_3 L_1 L_4 g_m + 2 C_1 C_4 L_1 L_4 g_m\right) + s^3 \left(C_1 C_3 L_1 R_4 g_m + C_1 C_3 L_4 + 2 C_1 C_4 L_4 + C_3 C_4 L_4 R_4 g_m\right) + s^2 \left(C_1 C_3 R_4 + 2 C_1 L_1 g_m + C_3 L_4 g_m + 2 C_4 L_4 g_m\right) + s \left(2 C_1 + C_3 R_4 g_m\right)}$$

**10.457** **INVALID-ORDER-457** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{R_4 \left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_1 L_4 R_4 g_m s^4 + R_4 g_m + s^2 \left(C_1 L_1 R_4 g_m + C_4 L_4 R_4 g_m\right)}{C_1 C_3 C_4 L_1 L_4 R_4 g_m s^5 + 2 g_m + s^4 \left(C_1 C_3 C_4 L_4 R_4 + 2 C_1 C_4 L_1 L_4 g_m\right) + s^3 \left(C_1 C_3 L_1 R_4 g_m + 2 C_1 C_4 L_1 R_4 g_m + 2 C_1 C_4 L_4 + C_3 C_4 L_4 R_4 g_m\right) + s^2 \left(C_1 C_3 R_4 + 2 C_1 C_4 R_4 + 2 C_1 L_1 g_m + 2 C_4 L_4 g_m\right) + s \left(2 C_1 + C_3 R_4 g_m + 2 C_4 R_4 g_m\right)}$$

**10.458** **INVALID-ORDER-458** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3}{C_3 R_3 s+1}, \ R_4, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_1 R_3 R_4 g_m s^2 + R_3 R_4 g_m}{C_1 C_3 L_1 R_3 R_4 g_m s^3 + 2R_3 g_m + R_4 g_m + s^2\left(C_1 C_3 R_3 R_4 + 2C_1 L_1 R_3 g_m + C_1 L_1 R_4 g_m\right) + s\left(2C_1 R_3 + C_1 R_4 + C_3 R_3 R_4 g_m\right)}$$

**10.459** **INVALID-ORDER-459** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3}{C_3 R_3 s+1}, \ \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_1 R_3 g_m s^2 + R_3 g_m}{g_m + s^3\left(C_1 C_3 L_1 R_3 g_m + 2C_1 C_4 L_1 R_3 g_m\right) + s^2\left(C_1 C_3 R_3 + 2C_1 C_4 R_3 + C_1 L_1 g_m\right) + s\left(C_1 + C_3 R_3 g_m + 2C_4 R_3 g_m\right)}$$

**10.460** **INVALID-ORDER-460** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3}{C_3 R_3 s+1}, \ \frac{R_4}{C_4 R_4 s+1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_1 R_3 R_4 g_m s^2 + R_3 R_4 g_m}{2R_3 g_m + R_4 g_m + s^3\left(C_1 C_3 L_1 R_3 R_4 g_m + 2C_1 C_4 L_1 R_3 R_4 g_m\right) + s^2\left(C_1 C_3 R_3 R_4 + 2C_1 C_4 R_3 R_4 + 2C_1 L_1 R_3 g_m + C_1 L_1 R_4 g_m\right) + s\left(2C_1 R_3 + C_1 R_4 + C_3 R_3 R_4 g_m + 2C_4 R_3 R_4 g_m\right)}$$

**10.461** **INVALID-ORDER-461** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3}{C_3 R_3 s+1}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_1 R_3 R_4 g_m s^3 + C_1 L_1 R_3 g_m s^2 + C_4 R_3 R_4 g_m s + R_3 g_m}{C_1 C_3 C_4 L_1 R_3 R_4 g_m s^4 + g_m + s^3\left(C_1 C_3 C_4 R_3 R_4 + C_1 C_3 L_1 R_3 g_m + 2C_1 C_4 L_1 R_3 g_m + C_1 C_4 L_1 R_4 g_m\right) + s^2\left(C_1 C_3 R_3 + 2C_1 C_4 R_3 + C_1 C_4 R_4 + C_1 L_1 g_m + C_3 C_4 R_3 R_4 g_m\right) + s\left(C_1 + C_3 R_3 g_m + 2C_4 R_3 g_m + C_4 R_4 g_m\right)}$$

**10.462** **INVALID-ORDER-462** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3}{C_3 R_3 s+1}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_1 L_4 R_3 g_m s^4 + R_3 g_m + s^2\left(C_1 L_1 R_3 g_m + C_4 L_4 R_3 g_m\right)}{C_1 C_3 C_4 L_1 L_4 R_3 g_m s^5 + g_m + s^4\left(C_1 C_3 C_4 L_4 R_3 + C_1 C_4 L_1 L_4 g_m\right) + s^3\left(C_1 C_3 L_1 R_3 g_m + 2C_1 C_4 L_1 R_3 g_m + C_1 C_4 L_4 + C_3 C_4 L_4 R_3 g_m\right) + s^2\left(C_1 C_3 R_3 + 2C_1 C_4 R_3 + C_1 L_1 g_m + C_4 L_4 g_m\right) + s\left(C_1 + C_3 R_3 g_m + 2C_4 R_3 g_m\right)}$$

**10.463** **INVALID-ORDER-463** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3}{C_3 R_3 s+1}, \ \frac{L_4 s}{C_4 L_4 s^2+1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_1 L_4 R_3 g_m s^3 + L_4 R_3 g_m s}{2R_3 g_m + s^4\left(C_1 C_3 L_1 L_4 R_3 g_m + 2C_1 C_4 L_1 L_4 R_3 g_m\right) + s^3\left(C_1 C_3 L_4 R_3 + 2C_1 C_4 L_4 R_3 + C_1 L_1 L_4 g_m\right) + s^2\left(2C_1 L_1 R_3 g_m + C_1 L_4 + C_3 L_4 R_3 g_m + 2C_4 L_4 R_3 g_m\right) + s\left(2C_1 R_3 + L_4 g_m\right)}$$

**10.464** **INVALID-ORDER-464** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3}{C_3 R_3 s+1}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_1 L_4 R_3 g_m s^4 + C_1 C_4 L_1 R_3 R_4 g_m s^3 + C_4 R_3 R_4 g_m s + R_3 g_m + s^2\left(C_1 L_1 R_3 g_m + C_4 L_4 R_3 g_m\right)}{C_1 C_3 C_4 L_1 L_4 R_3 g_m s^5 + g_m + s^4\left(C_1 C_3 C_4 L_1 R_3 R_4 g_m + C_1 C_3 C_4 L_4 R_3 + C_1 C_4 L_1 L_4 g_m\right) + s^3\left(C_1 C_3 C_4 R_3 R_4 + C_1 C_3 L_1 R_3 g_m + 2C_1 C_4 L_1 R_3 g_m + C_1 C_4 L_1 R_4 g_m + C_1 C_4 L_4 + C_3 C_4 L_4 R_3 g_m\right) + s^2\left(C_1 C_3 R_3 + 2C_1 C_4 R_3 + C_1 C_4 R_4 + C_1 L_1 g_m + C_3 C_4 R_3 R_4 g_m + C_4 L_4 g_m\right)}$$

**10.465** **INVALID-ORDER-465** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3}{C_3 R_3 s+1}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2+L_4 s+R_4}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_1 L_4 R_3 R_4 g_m s^3 + L_4 R_3 R_4 g_m s}{2R_3 R_4 g_m + s^4\left(C_1 C_3 L_1 L_4 R_3 R_4 g_m + 2C_1 C_4 L_1 L_4 R_3 R_4 g_m\right) + s^3\left(C_1 C_3 L_4 R_3 R_4 + 2C_1 C_4 L_4 R_3 R_4 + 2C_1 L_1 L_4 R_3 g_m + C_1 L_1 L_4 R_4 g_m\right) + s^2\left(2C_1 L_1 R_3 R_4 g_m + 2C_1 L_4 R_3 + C_1 L_4 R_4 + C_3 L_4 R_3 R_4 g_m + 2C_4 L_4 R_3 R_4 g_m\right) + s\left(2C_1 R_3 R_4 + 2L_4 R_3 g_m + L_4 R_4 g_m\right)}$$

**10.466** **INVALID-ORDER-466** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3}{C_3 R_3 s+1}, \ \frac{C_4 L_4 R_4 s^2+L_4 s+R_4}{C_4 L_4 s^2+1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_1 L_4 R_3 R_4 g_m s^4 + C_1 L_1 L_4 R_3 g_m s^3 + L_4 R_3 g_m s + R_3 R_4 g_m + s^2\left(C_1 L_1 R_3 R_4 g_m + C_4 L_4 R_3 R_4 g_m\right)}{C_1 C_3 C_4 L_1 L_4 R_3 R_4 g_m s^5 + 2R_3 g_m + R_4 g_m + s^4\left(C_1 C_3 C_4 L_4 R_3 R_4 + C_1 C_3 L_1 L_4 R_3 g_m + 2C_1 C_4 L_1 L_4 R_3 g_m + C_1 C_4 L_1 L_4 R_4 g_m\right) + s^3\left(C_1 C_3 L_1 R_3 R_4 g_m + C_1 C_3 L_4 R_3 + 2C_1 C_4 L_4 R_3 + C_1 C_4 L_4 R_4 + C_1 L_1 L_4 g_m + C_3 C_4 L_4 R_3 R_4 g_m\right) + s^2\left(C_1 C_3 R_3 R_4 + 2C_1 L_1 R_3 g_m + C_1\cdots\right)}$$

**10.467** **INVALID-ORDER-467** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3}{C_3 R_3 s+1}, \ \frac{R_4\left(C_4 L_4 s^2+1\right)}{C_4 L_4 s^2+C_4 R_4 s+1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_1 L_4 R_3 R_4 g_m s^4 + R_3 R_4 g_m + s^2\left(C_1 L_1 R_3 R_4 g_m + C_4 L_4 R_3 R_4 g_m\right)}{C_1 C_3 C_4 L_1 L_4 R_3 R_4 g_m s^5 + 2R_3 g_m + R_4 g_m + s^4\left(C_1 C_3 C_4 L_4 R_3 R_4 + 2C_1 C_4 L_1 L_4 R_3 g_m + C_1 C_4 L_1 L_4 R_4 g_m\right) + s^3\left(C_1 C_3 L_1 R_3 R_4 g_m + 2C_1 C_4 L_1 R_3 R_4 g_m + 2C_1 C_4 L_4 R_3 + C_1 C_4 L_4 R_4 + C_3 C_4 L_4 R_3 R_4 g_m\right) + s^2\left(C_1 C_3 R_3 R_4 + 2C_1 C_4 R_3 R_4 + 2C_1 L_1 R_3 g_m + C_1 L_1 R_4 g_m + \cdots\right)}$$

**10.468  INVALID-ORDER-468** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ R_4, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 L_1 R_3 R_4 g_m s^3 + C_1 L_1 R_4 g_m s^2 + C_3 R_3 R_4 g_m s + R_4 g_m}{2g_m + s^3 \left(2C_1 C_3 L_1 R_3 g_m + C_1 C_3 L_1 R_4 g_m\right) + s^2 \left(2C_1 C_3 R_3 + C_1 C_3 R_4 + 2C_1 L_1 g_m\right) + s \left(2C_1 + 2C_3 R_3 g_m + C_3 R_4 g_m\right)}$$

**10.469  INVALID-ORDER-469** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 L_1 R_3 g_m s^3 + C_1 L_1 g_m s^2 + C_3 R_3 g_m s + g_m}{2C_1 C_3 C_4 L_1 R_3 g_m s^4 + s^3 \left(2C_1 C_3 C_4 R_3 + C_1 C_3 L_1 g_m + 2C_1 C_4 L_1 g_m\right) + s^2 \left(C_1 C_3 + 2C_1 C_4 + 2C_3 C_4 R_3 g_m\right) + s \left(C_3 g_m + 2C_4 g_m\right)}$$

**10.470  INVALID-ORDER-470** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 L_1 R_3 R_4 g_m s^3 + C_1 L_1 R_4 g_m s^2 + C_3 R_3 R_4 g_m s + R_4 g_m}{2C_1 C_3 C_4 L_1 R_3 R_4 g_m s^4 + 2g_m + s^3 \left(2C_1 C_3 C_4 R_3 R_4 + 2C_1 C_3 L_1 R_3 g_m + C_1 C_3 L_1 R_4 g_m + 2C_1 C_4 L_1 R_4 g_m\right) + s^2 \left(2C_1 C_3 R_3 + C_1 C_3 R_4 + 2C_1 C_4 R_4 + 2C_1 L_1 g_m + 2C_3 C_4 R_3 R_4 g_m\right) + s \left(2C_1 + 2C_3 R_3 g_m + C_3 R_4 g_m + 2C_4 R_4 g_m\right)}$$

**10.471  INVALID-ORDER-471** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 R_3 R_4 g_m s^4 + g_m + s^3 \left(C_1 C_3 L_1 R_3 g_m + C_1 C_4 L_1 R_4 g_m\right) + s^2 \left(C_1 L_1 g_m + C_3 C_4 R_3 R_4 g_m\right) + s \left(C_3 R_3 g_m + C_4 R_4 g_m\right)}{s^4 \left(2C_1 C_3 C_4 L_1 R_3 g_m + C_1 C_3 C_4 L_1 R_4 g_m\right) + s^3 \left(2C_1 C_3 C_4 R_3 + C_1 C_3 C_4 R_4 + C_1 C_3 L_1 g_m + 2C_1 C_4 L_1 g_m\right) + s^2 \left(C_1 C_3 + 2C_1 C_4 + 2C_3 C_4 R_3 g_m + C_3 C_4 R_4 g_m\right) + s \left(C_3 g_m + 2C_4 g_m\right)}$$

**10.472  INVALID-ORDER-472** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_4 R_3 g_m s^5 + C_1 C_4 L_1 L_4 g_m s^4 + C_3 R_3 g_m s + g_m + s^3 \left(C_1 C_3 L_1 R_3 g_m + C_3 C_4 L_4 R_3 g_m\right) + s^2 \left(C_1 L_1 g_m + C_4 L_4 g_m\right)}{C_1 C_3 C_4 L_1 L_4 g_m s^5 + s^4 \left(2C_1 C_3 C_4 L_1 R_3 g_m + C_1 C_3 C_4 L_4\right) + s^3 \left(2C_1 C_3 C_4 R_3 + C_1 C_3 L_1 g_m + 2C_1 C_4 L_1 g_m + C_3 C_4 L_4 g_m\right) + s^2 \left(C_1 C_3 + 2C_1 C_4 + 2C_3 C_4 R_3 g_m\right) + s \left(C_3 g_m + 2C_4 g_m\right)}$$

**10.473  INVALID-ORDER-473** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 L_1 L_4 R_3 g_m s^4 + C_1 L_1 L_4 g_m s^3 + C_3 L_4 R_3 g_m s^2 + L_4 g_m s}{2C_1 C_3 C_4 L_1 L_4 R_3 g_m s^5 + 2g_m + s^4 \left(2C_1 C_3 C_4 L_4 R_3 + C_1 C_3 L_1 L_4 g_m + 2C_1 C_4 L_1 L_4 g_m\right) + s^3 \left(2C_1 C_3 L_1 R_3 g_m + C_1 C_3 L_4 + 2C_1 C_4 L_4 + 2C_3 C_4 L_4 R_3 g_m\right) + s^2 \left(2C_1 C_3 R_3 + 2C_1 L_1 g_m + C_3 L_4 g_m + 2C_4 L_4 g_m\right) + s \left(2C_1 + 2C_3 R_3 g_m\right)}$$

**10.474  INVALID-ORDER-474** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_4 R_3 g_m s^5 + g_m + s^4 \left(C_1 C_3 C_4 L_1 R_3 R_4 g_m + C_1 C_4 L_1 L_4 g_m\right) + s^3 \left(C_1 C_3 L_1 R_3 g_m + C_1 C_4 L_1 R_4 g_m + C_3 C_4 L_4 R_3 g_m\right) + s^2 \left(C_1 L_1 g_m + C_3 C_4 R_3 R_4 g_m + C_4 L_4 g_m\right) + s \left(C_3 R_3 g_m + C_4 R_4 g_m\right)}{C_1 C_3 C_4 L_1 L_4 g_m s^5 + s^4 \left(2C_1 C_3 C_4 L_1 R_3 g_m + C_1 C_3 C_4 L_1 R_4 g_m + C_1 C_3 C_4 L_4\right) + s^3 \left(2C_1 C_3 C_4 R_3 + C_1 C_3 C_4 R_4 + C_1 C_3 L_1 g_m + 2C_1 C_4 L_1 g_m + C_3 C_4 L_4 g_m\right) + s^2 \left(C_1 C_3 + 2C_1 C_4 + 2C_3 C_4 R_3 g_m + C_3 C_4 R_4 g_m\right) + s \left(C_3 g_m + 2C_4 g_m\right)}$$

**10.475  INVALID-ORDER-475** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 L_1 L_4 R_3 R_4 g_m s^4 + C_1 L_1 L_4 R_4 g_m s^3 + C_3 L_4 R_3 R_4 g_m s^2 + L_4 R_4 g_m s}{2C_1 C_3 C_4 L_1 L_4 R_3 R_4 g_m s^5 + 2R_4 g_m + s^4 \left(2C_1 C_3 C_4 L_4 R_3 R_4 + 2C_1 C_3 L_1 L_4 R_3 g_m + C_1 C_3 L_1 L_4 R_4 g_m + 2C_1 C_4 L_1 L_4 R_4 g_m\right) + s^3 \left(2C_1 C_3 L_1 R_3 R_4 g_m + 2C_1 C_3 L_4 R_3 + C_1 C_3 L_4 R_4 + 2C_1 C_4 L_4 R_4 + 2C_1 L_1 L_4 g_m + 2C_3 C_4 L_4 R_3 R_4 g_m\right) + s^2 \left(2C_1 C_3 R_3 R_4 + 2C_1 L_1 R_4 g_m + 2C_{\ldots}\right)}$$

**10.476  INVALID-ORDER-476** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_4 R_3 R_4 g_m s^5 + R_4 g_m + s^4 \left(C_1 C_3 L_1 L_4 R_3 g_m + C_1 C_4 L_1 L_4 R_4 g_m\right) + s^3 \left(C_1 C_3 L_1 R_3 R_4 g_m + C_1 L_1 L_4 g_m + C_3 C_4 L_4 R_3 R_4 g_m\right) + s^2 \left(C_1 L_1 R_4 g_m + C_3 L_4 R_3 g_m + C_4 L_4 R_4 g_m\right) + s \left(C_3 R_3 R_4 g_m + L_4 g_m\right)}{2g_m + s^5 \left(2C_1 C_3 C_4 L_1 L_4 R_3 g_m + C_1 C_3 C_4 L_1 L_4 R_4 g_m\right) + s^4 \left(2C_1 C_3 C_4 L_4 R_3 + C_1 C_3 C_4 L_4 R_4 + C_1 C_3 L_1 L_4 g_m + 2C_1 C_4 L_1 L_4 g_m\right) + s^3 \left(2C_1 C_3 L_1 R_3 g_m + C_1 C_3 L_1 R_4 g_m + C_1 C_3 L_4 + 2C_1 C_4 L_4 + 2C_3 C_4 L_4 R_3 g_m + C_3 C_4 L_4 R_4 g_m\right) + s^2 \left(2C_1 C_3 R_3 + C_1 C_3 R_4 + 2C_1 L_1 g_m\right) + \ldots}$$

**10.477  INVALID-ORDER-477** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{R_4 \left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_4 R_3 R_4 g_m s^5 + C_1 C_4 L_1 L_4 R_4 g_m s^4 + C_3 R_3 R_4 g_m s + R_4 g_m + s^3 \left(C_1 C_3 L_1 R_3 R_4 g_m + C_3 C_4 L_4 R_3 R_4 g_m\right) + s^2 \left(C_1 L_1 R_4 g_m + C_4 L_4 R_4 g_m\right)}{2g_m + s^5 \left(2C_1 C_3 C_4 L_1 L_4 R_3 g_m + C_1 C_3 C_4 L_1 L_4 R_4 g_m\right) + s^4 \left(2C_1 C_3 C_4 L_1 R_3 R_4 g_m + 2C_1 C_3 C_4 L_4 R_3 + C_1 C_3 C_4 L_4 R_4 + 2C_1 C_4 L_1 R_4 g_m\right) + s^3 \left(2C_1 C_3 C_4 R_3 R_4 + 2C_1 C_3 L_1 R_3 g_m + C_1 C_3 L_1 R_4 g_m + 2C_1 C_4 L_1 R_4 g_m + 2C_1 C_4 L_4 + 2C_3 C_4 L_4 R_3 g_m + C_3 C_4 L_4 R_4 g_m\right) + s^2 \left(2C_{\ldots}\right)}$$

**10.478** **INVALID-ORDER-478** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ R_4, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 L_1 L_3 R_4 g_m s^4 + R_4 g_m + s^2 \left(C_1 L_1 R_4 g_m + C_3 L_3 R_4 g_m\right)}{2 C_1 C_3 L_1 L_3 g_m s^4 + 2 g_m + s^3 \left(C_1 C_3 L_1 R_4 g_m + 2 C_1 C_3 L_3\right) + s^2 \left(C_1 C_3 R_4 + 2 C_1 L_1 g_m + 2 C_3 L_3 g_m\right) + s \left(2 C_1 + C_3 R_4 g_m\right)}$$

**10.479** **INVALID-ORDER-479** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 L_1 L_3 g_m s^4 + g_m + s^2 \left(C_1 L_1 g_m + C_3 L_3 g_m\right)}{2 C_1 C_3 C_4 L_1 L_3 g_m s^5 + 2 C_1 C_3 C_4 L_3 s^4 + s^3 \left(C_1 C_3 L_1 g_m + 2 C_1 C_4 L_1 g_m + 2 C_3 C_4 L_3 g_m\right) + s^2 \left(C_1 C_3 + 2 C_1 C_4\right) + s \left(C_3 g_m + 2 C_4 g_m\right)}$$

**10.480** **INVALID-ORDER-480** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 L_1 L_3 R_4 g_m s^4 + R_4 g_m + s^2 \left(C_1 L_1 R_4 g_m + C_3 L_3 R_4 g_m\right)}{2 C_1 C_3 C_4 L_1 L_3 R_4 g_m s^5 + 2 g_m + s^4 \left(2 C_1 C_3 C_4 L_3 R_4 + 2 C_1 C_3 L_1 L_3 g_m\right) + s^3 \left(C_1 C_3 L_1 R_4 g_m + 2 C_1 C_3 L_3 + 2 C_1 C_4 L_1 R_4 g_m + 2 C_3 C_4 L_3 R_4 g_m\right) + s^2 \left(C_1 C_3 R_4 + 2 C_1 C_4 R_4 + 2 C_1 L_1 g_m + 2 C_3 L_3 g_m\right) + s \left(2 C_1 + C_3 R_4 g_m + 2 C_4 R_4 g_m\right)}$$

**10.481** **INVALID-ORDER-481** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 R_4 g_m s^5 + C_1 C_3 L_1 L_3 g_m s^4 + C_4 R_4 g_m s + g_m + s^3 \left(C_1 C_4 L_1 R_4 g_m + C_3 C_4 L_3 R_4 g_m\right) + s^2 \left(C_1 L_1 g_m + C_3 L_3 g_m\right)}{2 C_1 C_3 C_4 L_1 L_3 g_m s^5 + s^4 \left(C_1 C_3 C_4 L_1 R_4 g_m + 2 C_1 C_3 C_4 L_3\right) + s^3 \left(C_1 C_3 C_4 R_4 + C_1 C_3 L_1 g_m + 2 C_1 C_4 L_1 g_m + 2 C_3 C_4 L_3 g_m\right) + s^2 \left(C_1 C_3 + 2 C_1 C_4 + C_3 C_4 R_4 g_m\right) + s \left(C_3 g_m + 2 C_4 g_m\right)}$$

**10.482** **INVALID-ORDER-482** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 g_m s^6 + g_m + s^4 \left(C_1 C_3 L_1 L_3 g_m + C_1 C_4 L_1 L_4 g_m + C_3 C_4 L_3 L_4 g_m\right) + s^2 \left(C_1 L_1 g_m + C_3 L_3 g_m + C_4 L_4 g_m\right)}{s^5 \left(2 C_1 C_3 C_4 L_1 L_3 g_m + C_1 C_3 C_4 L_1 L_4 g_m\right) + s^4 \left(2 C_1 C_3 C_4 L_3 + C_1 C_3 C_4 L_4\right) + s^3 \left(C_1 C_3 L_1 g_m + 2 C_1 C_4 L_1 g_m + 2 C_3 C_4 L_3 g_m + C_3 C_4 L_4 g_m\right) + s^2 \left(C_1 C_3 + 2 C_1 C_4\right) + s \left(C_3 g_m + 2 C_4 g_m\right)}$$

**10.483** **INVALID-ORDER-483** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 L_1 L_3 L_4 g_m s^5 + L_4 g_m s + s^3 \left(C_1 L_1 L_4 g_m + C_3 L_3 L_4 g_m\right)}{2 C_1 C_3 C_4 L_1 L_3 L_4 g_m s^6 + 2 C_1 C_3 C_4 L_3 L_4 s^5 + 2 C_1 s + 2 g_m + s^4 \left(2 C_1 C_3 L_1 L_3 g_m + C_1 C_3 L_1 L_4 g_m + 2 C_1 C_4 L_1 L_4 g_m + 2 C_3 C_4 L_3 L_4 g_m\right) + s^3 \left(2 C_1 C_3 L_3 + C_1 C_3 L_4 + 2 C_1 C_4 L_4\right) + s^2 \left(2 C_1 L_1 g_m + 2 C_3 L_3 g_m + C_3 L_4 g_m + 2 C_4 L_4 g_m\right)}$$

**10.484** **INVALID-ORDER-484** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 g_m s^6 + C_1 C_3 C_4 L_1 L_3 R_4 g_m s^5 + C_4 R_4 g_m s + g_m + s^4 \left(C_1 C_3 L_1 L_3 g_m + C_1 C_4 L_1 L_4 g_m + C_3 C_4 L_3 L_4 g_m\right) + s^3 \left(C_1 C_4 L_1 R_4 g_m + C_3 C_4 L_3 R_4 g_m\right) + s^2 \left(C_1 L_1 g_m + C_3 L_3 g_m + C_4 L_4 g_m\right)}{s^5 \left(2 C_1 C_3 C_4 L_1 L_3 g_m + C_1 C_3 C_4 L_1 L_4 g_m\right) + s^4 \left(C_1 C_3 C_4 L_1 R_4 g_m + 2 C_1 C_3 C_4 L_3 + C_1 C_3 C_4 L_4\right) + s^3 \left(C_1 C_3 C_4 R_4 + C_1 C_3 L_1 g_m + 2 C_1 C_4 L_1 g_m + 2 C_3 C_4 L_3 g_m + C_3 C_4 L_4 g_m\right) + s^2 \left(C_1 C_3 + 2 C_1 C_4 + C_3 C_4 R_4 g_m\right) + s \left(C_3 g_m + 2 C_4 g_m\right)}$$

**10.485** **INVALID-ORDER-485** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 L_1 L_3 L_4 R_4 g_m s^5 + L_4 R_4 g_m s + s^3 \left(C_1 L_1 L_4 R_4 g_m + C_3 L_3 L_4 R_4 g_m\right)}{2 C_1 C_3 C_4 L_1 L_3 L_4 R_4 g_m s^6 + 2 R_4 g_m + s^5 \left(2 C_1 C_3 C_4 L_3 L_4 R_4 + 2 C_1 C_3 L_1 L_3 L_4 g_m\right) + s^4 \left(2 C_1 C_3 L_1 L_3 R_4 g_m + C_1 C_3 L_1 L_4 R_4 g_m + 2 C_1 C_3 L_3 L_4 + 2 C_1 C_4 L_1 L_4 R_4 g_m + 2 C_3 C_4 L_3 L_4 R_4 g_m\right) + s^3 \left(2 C_1 C_3 L_3 R_4 + C_1 C_3 L_4 R_4 + 2 C_1 C_4 L_4 R_4 + 2 C_1 L_1 L_4 g_m + 2 C_3 L_3 L_4 g_m\right) + s^2$$

**10.486** **INVALID-ORDER-486** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 R_4 g_m s^6 + C_1 C_3 L_1 L_3 L_4 g_m s^5 + L_4 g_m s + R_4 g_m + s^4 \left(C_1 C_3 L_1 L_3 R_4 g_m + C_1 C_4 L_1 L_4 R_4 g_m + C_3 C_4 L_3 L_4 R_4 g_m\right) + s^3 \left(C_1 L_1 L_4 g_m + C_3 L_3 L_4 g_m\right) + s^2 \left(C_1 L_1 R_4 g_m + C_3 L_3 R_4 g_m + C_4 L_4 R_4 g_m\right)}{2 C_1 C_3 C_4 L_1 L_3 L_4 g_m s^6 + 2 g_m + s^5 \left(C_1 C_3 C_4 L_1 L_4 R_4 g_m + 2 C_1 C_3 C_4 L_3 L_4\right) + s^4 \left(C_1 C_3 C_4 L_4 R_4 + 2 C_1 C_3 L_1 L_3 g_m + C_1 C_3 L_1 L_4 g_m + 2 C_1 C_4 L_1 L_4 g_m + 2 C_3 C_4 L_3 L_4 g_m\right) + s^3 \left(C_1 C_3 L_1 R_4 g_m + 2 C_1 C_3 L_3 + C_1 C_3 L_4 + 2 C_1 C_4 L_4 + C_3 C_4 L_4 R_4 g_m\right) + s^2 \left(C_1 C_3 R_4 + 2 C_1 L_1 g_m$$

**10.487** **INVALID-ORDER-487** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{R_4 \left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 R_4 g_m s^6 + R_4 g_m + s^4 \left(C_1 C_3 L_1 L_3 R_4 g_m + C_1 C_4 L_1 L_4 R_4 g_m + C_3 C_4 L_3 L_4 R_4 g_m\right) + s^2 \left(C_1 L_1 R_4 g_m + C_3 L_3 R_4 g_m + C_4 L_4 R_4 g_m\right)}{2 C_1 C_3 C_4 L_1 L_3 L_4 g_m s^6 + 2 g_m + s^5 \left(2 C_1 C_3 C_4 L_1 L_3 R_4 g_m + C_1 C_3 C_4 L_1 L_4 R_4 g_m + 2 C_1 C_3 C_4 L_3 L_4\right) + s^4 \left(2 C_1 C_3 C_4 L_3 R_4 + C_1 C_3 C_4 L_4 R_4 + 2 C_1 C_3 L_1 L_3 g_m + 2 C_1 C_4 L_1 L_4 g_m + 2 C_3 C_4 L_3 L_4 g_m\right) + s^3 \left(C_1 C_3 L_1 R_4 g_m + 2 C_1 C_3 L_3 + 2 C_1 C_4 L_1 R_4 g_m + 2 C_1 C_4 L_4 + 2 C_3 C_4 L_3$$

**10.488** **INVALID-ORDER-488** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ R_4, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_1 L_3 R_4 g_m s^3 + L_3 R_4 g_m s}{C_1 C_3 L_1 L_3 R_4 g_m s^4 + R_4 g_m + s^3 \left(C_1 C_3 L_3 R_4 + 2C_1 L_1 L_3 g_m\right) + s^2 \left(C_1 L_1 R_4 g_m + 2C_1 L_3 + C_3 L_3 R_4 g_m\right) + s \left(C_1 R_4 + 2L_3 g_m\right)}$$

**10.489** **INVALID-ORDER-489** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_1 L_3 g_m s^3 + L_3 g_m s}{C_1 s + g_m + s^4 \left(C_1 C_3 L_1 L_3 g_m + 2C_1 C_4 L_1 L_3 g_m\right) + s^3 \left(C_1 C_3 L_3 + 2C_1 C_4 L_3\right) + s^2 \left(C_1 L_1 g_m + C_3 L_3 g_m + 2C_4 L_3 g_m\right)}$$

**10.490** **INVALID-ORDER-490** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_1 L_3 R_4 g_m s^3 + L_3 R_4 g_m s}{R_4 g_m + s^4 \left(C_1 C_3 L_1 L_3 R_4 g_m + 2C_1 C_4 L_1 L_3 R_4 g_m\right) + s^3 \left(C_1 C_3 L_3 R_4 + 2C_1 C_4 L_3 R_4 + 2C_1 L_1 L_3 g_m\right) + s^2 \left(C_1 L_1 R_4 g_m + 2C_1 L_3 + C_3 L_3 R_4 g_m + 2C_4 L_3 R_4 g_m\right) + s \left(C_1 R_4 + 2L_3 g_m\right)}$$

**10.491** **INVALID-ORDER-491** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_1 L_3 R_4 g_m s^4 + C_1 L_1 L_3 g_m s^3 + C_4 L_3 R_4 g_m s^2 + L_3 g_m s}{C_1 C_3 C_4 L_1 L_3 R_4 g_m s^5 + g_m + s^4 \left(C_1 C_3 C_4 L_3 R_4 + C_1 C_3 L_1 L_3 g_m + 2C_1 C_4 L_1 L_3 g_m\right) + s^3 \left(C_1 C_3 L_3 + C_1 C_4 L_1 R_4 g_m + 2C_1 C_4 L_3 + C_3 C_4 L_3 R_4 g_m\right) + s^2 \left(C_1 C_4 R_4 + C_1 L_1 g_m + C_3 L_3 g_m + 2C_4 L_3 g_m\right) + s \left(C_1 + C_4 R_4 g_m\right)}$$

**10.492** **INVALID-ORDER-492** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_1 L_3 L_4 g_m s^5 + L_3 g_m s + s^3 \left(C_1 L_1 L_3 g_m + C_4 L_3 L_4 g_m\right)}{C_1 C_3 C_4 L_1 L_3 L_4 g_m s^6 + C_1 C_3 C_4 L_3 L_4 s^5 + C_1 s + g_m + s^4 \left(C_1 C_3 L_1 L_3 g_m + 2C_1 C_4 L_1 L_3 g_m + C_1 C_4 L_1 L_4 g_m + C_3 C_4 L_3 L_4 g_m\right) + s^3 \left(C_1 C_3 L_3 + 2C_1 C_4 L_3 + C_1 C_4 L_4\right) + s^2 \left(C_1 L_1 g_m + C_3 L_3 g_m + 2C_4 L_3 g_m + C_4 L_4 g_m\right)}$$

**10.493** **INVALID-ORDER-493** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_1 L_3 L_4 g_m s^3 + L_3 L_4 g_m s}{2L_3 g_m + L_4 g_m + s^4 \left(C_1 C_3 L_1 L_3 L_4 g_m + 2C_1 C_4 L_1 L_3 L_4 g_m\right) + s^3 \left(C_1 C_3 L_3 L_4 + 2C_1 C_4 L_3 L_4\right) + s^2 \left(2C_1 L_1 L_3 g_m + C_1 L_1 L_4 g_m + C_3 L_3 L_4 g_m + 2C_4 L_3 L_4 g_m\right) + s \left(2C_1 L_3 + C_1 L_4\right)}$$

**10.494** **INVALID-ORDER-494** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_1 L_3 L_4 g_m s^5 + C_1 C_4 L_1 L_3 R_4 g_m s^4 + C_4 L_3 R_4 g_m s^2 + L_3 g_m s + s^3 \left(C_1 L_1 L_3 g_m + C_4 L_3 L_4 g_m\right)}{C_1 C_3 C_4 L_1 L_3 L_4 g_m s^6 + g_m + s^5 \left(C_1 C_3 C_4 L_1 L_3 R_4 g_m + C_1 C_3 C_4 L_3 L_4\right) + s^4 \left(C_1 C_3 C_4 L_3 R_4 + C_1 C_3 L_1 L_3 g_m + 2C_1 C_4 L_1 L_3 g_m + C_1 C_4 L_1 L_4 g_m + C_3 C_4 L_3 L_4 g_m\right) + s^3 \left(C_1 C_3 L_3 + C_1 C_4 L_1 R_4 g_m + 2C_1 C_4 L_3 + C_1 C_4 L_4 + C_3 C_4 L_3 R_4 g_m\right) + s^2 \left(C_1 C_4 R_4 + C_1 L_1 g_m + C_3 L_3 ...\right)}$$

**10.495** **INVALID-ORDER-495** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_1 L_3 L_4 R_4 g_m s^3 + L_3 L_4 R_4 g_m s}{2L_3 R_4 g_m + L_4 R_4 g_m + s^4 \left(C_1 C_3 L_1 L_3 L_4 R_4 g_m + 2C_1 C_4 L_1 L_3 L_4 R_4 g_m\right) + s^3 \left(C_1 C_3 L_3 L_4 R_4 + 2C_1 C_4 L_3 L_4 R_4 + 2C_1 L_1 L_3 L_4 g_m\right) + s^2 \left(2C_1 L_1 L_3 R_4 g_m + C_1 L_1 L_4 R_4 g_m + 2C_1 L_3 L_4 + C_3 L_3 L_4 R_4 g_m + 2C_4 L_3 L_4 R_4 g_m\right) + s \left(2C_1 L_3 R_4 + C_1 L_4 R_4 + 2L_3 L_4 g_m\right)}$$

**10.496** **INVALID-ORDER-496** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_1 L_3 L_4 R_4 g_m s^5 + C_1 L_1 L_3 L_4 g_m s^4 + L_3 L_4 g_m s^2 + L_3 R_4 g_m s + s^3 \left(C_1 L_1 L_3 R_4 g_m + C_4 L_3 L_4 R_4 g_m\right)}{C_1 C_3 C_4 L_1 L_3 L_4 R_4 g_m s^6 + R_4 g_m + s^5 \left(C_1 C_3 C_4 L_3 L_4 R_4 + C_1 C_3 L_1 L_3 L_4 g_m + 2C_1 C_4 L_1 L_3 L_4 g_m\right) + s^4 \left(C_1 C_3 L_1 L_3 R_4 g_m + C_1 C_3 L_3 L_4 + C_1 C_4 L_1 L_4 R_4 g_m + 2C_1 C_4 L_3 L_4 + C_3 C_4 L_3 L_4 R_4 g_m\right) + s^3 \left(C_1 C_3 L_3 R_4 + C_1 C_4 L_4 R_4 + 2C_1 L_1 L_3 g_m + C_1 L_1 L_4 g_m + C_3 L_3 L_4 g_m + ...\right)}$$

**10.497** **INVALID-ORDER-497** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{R_4 \left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_1 L_3 L_4 R_4 g_m s^5 + L_3 R_4 g_m s + s^3 \left(C_1 L_1 L_3 R_4 g_m + C_4 L_3 L_4 R_4 g_m\right)}{C_1 C_3 C_4 L_1 L_3 L_4 R_4 g_m s^6 + R_4 g_m + s^5 \left(C_1 C_3 C_4 L_3 L_4 R_4 + 2C_1 C_4 L_1 L_3 L_4 g_m\right) + s^4 \left(C_1 C_3 L_1 L_3 R_4 g_m + 2C_1 C_4 L_1 L_3 R_4 g_m + C_1 C_4 L_1 L_4 R_4 g_m + 2C_1 C_4 L_3 L_4 + C_3 C_4 L_3 L_4 R_4 g_m\right) + s^3 \left(C_1 C_3 L_3 R_4 + 2C_1 C_4 L_3 R_4 + C_1 C_4 L_4 R_4 + 2C_1 L_1 L_3 g_m + 2C_4 L_3 L_4 g_m\right) + s^2 \left(C_1 L_1 ...\right)}$$

**10.498** **INVALID-ORDER-498** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ R_4, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 L_1 L_3 R_4 g_m s^4 + C_1 C_3 L_1 R_3 R_4 g_m s^3 + C_3 R_3 R_4 g_m s + R_4 g_m + s^2 \left(C_1 L_1 R_4 g_m + C_3 L_3 R_4 g_m\right)}{2C_1 C_3 L_1 L_3 g_m s^4 + 2g_m + s^3 \left(2C_1 C_3 L_1 R_3 g_m + C_1 C_3 L_1 R_4 g_m + 2C_1 C_3 L_3\right) + s^2 \left(2C_1 C_3 R_3 + C_1 C_3 R_4 + 2C_1 L_1 g_m + 2C_3 L_3 g_m\right) + s \left(2C_1 + 2C_3 R_3 g_m + C_3 R_4 g_m\right)}$$

**10.499** **INVALID-ORDER-499** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 L_1 L_3 g_m s^4 + C_1 C_3 L_1 R_3 g_m s^3 + C_3 R_3 g_m s + g_m + s^2 \left(C_1 L_1 g_m + C_3 L_3 g_m\right)}{2C_1 C_3 C_4 L_1 L_3 g_m s^5 + s^4 \left(2C_1 C_3 C_4 L_1 R_3 g_m + 2C_1 C_3 C_4 L_3\right) + s^3 \left(2C_1 C_3 C_4 R_3 + C_1 C_3 L_1 g_m + 2C_1 C_4 L_1 g_m + 2C_3 C_4 L_3 g_m\right) + s^2 \left(C_1 C_3 + 2C_1 C_4 + 2C_3 C_4 R_3 g_m\right) + s \left(C_3 g_m + 2C_4 g_m\right)}$$

**10.500** **INVALID-ORDER-500** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 L_1 L_3 R_4 g_m s^4 + C_1 C_3 L_1 R_3 R_4 g_m s^3 + C_3 R_3 R_4 g_m s + R_4 g_m + s^2 \left(C_1 L_1 R_4 g_m + C_3 L_3 R_4 g_m\right)}{2C_1 C_3 C_4 L_1 L_3 R_4 g_m s^5 + 2g_m + s^4 \left(2C_1 C_3 C_4 L_1 R_3 R_4 g_m + 2C_1 C_3 C_4 L_3 R_4 + 2C_1 C_3 L_1 L_3 g_m\right) + s^3 \left(2C_1 C_3 C_4 R_3 R_4 + 2C_1 C_3 L_1 R_3 g_m + C_1 C_3 L_1 R_4 g_m + 2C_1 C_3 L_3 + 2C_1 C_4 L_1 R_4 g_m + 2C_3 C_4 L_3 R_4 g_m\right) + s^2 \left(2C_1 C_3 R_3 + C_1 C_3 R_4 + 2C_1 C_4 R_4 + 2C_1 L_1 g_m + 2C_3 C_4 R_3 R_4 \cdots\right)}$$

**10.501** **INVALID-ORDER-501** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 R_4 g_m s^5 + g_m + s^4 \left(C_1 C_3 C_4 L_1 R_3 R_4 g_m + C_1 C_3 L_1 L_3 g_m\right) + s^3 \left(C_1 C_3 L_1 R_3 g_m + C_1 C_4 L_1 R_4 g_m + C_3 C_4 L_3 R_4 g_m\right) + s^2 \left(C_1 L_1 g_m + C_3 C_4 R_3 R_4 g_m + C_3 L_3 g_m\right) + s \left(C_3 R_3 g_m + C_4 R_4 g_m\right)}{2C_1 C_3 C_4 L_1 L_3 g_m s^5 + s^4 \left(2C_1 C_3 C_4 L_1 R_3 g_m + C_1 C_3 C_4 L_1 R_4 g_m + 2C_1 C_3 C_4 L_3\right) + s^3 \left(2C_1 C_3 C_4 R_3 + C_1 C_3 C_4 R_4 + C_1 C_3 L_1 g_m + 2C_1 C_4 L_1 g_m + 2C_3 C_4 L_3 g_m\right) + s^2 \left(C_1 C_3 + 2C_1 C_4 + 2C_3 C_4 R_3 g_m + C_3 C_4 R_4 g_m\right) + s \left(C_3 g_m + 2C_4 g_m\right)}$$

**10.502** **INVALID-ORDER-502** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 g_m s^6 + C_1 C_3 C_4 L_1 L_4 R_3 g_m s^5 + C_3 R_3 g_m s + g_m + s^4 \left(C_1 C_3 L_1 L_3 g_m + C_1 C_4 L_1 L_4 g_m + C_3 C_4 L_3 L_4 g_m\right) + s^3 \left(C_1 C_3 L_1 R_3 g_m + C_3 C_4 L_4 R_3 g_m\right) + s^2 \left(C_1 L_1 g_m + C_3 L_3 g_m + C_4 L_4 g_m\right)}{s^5 \left(2C_1 C_3 C_4 L_1 L_3 g_m + C_1 C_3 C_4 L_1 L_4 g_m\right) + s^4 \left(2C_1 C_3 C_4 L_1 R_3 g_m + 2C_1 C_3 C_4 L_3 + C_1 C_3 C_4 L_4\right) + s^3 \left(2C_1 C_3 C_4 R_3 + C_1 C_3 L_1 g_m + 2C_1 C_4 L_1 g_m + 2C_3 C_4 L_3 g_m + C_3 C_4 L_4 g_m\right) + s^2 \left(C_1 C_3 + 2C_1 C_4 + 2C_3 C_4 R_3 g_m\right) + s \left(C_3 g_m + 2C_4 g_m\right)}$$

**10.503** **INVALID-ORDER-503** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 L_1 L_3 L_4 g_m s^5 + C_1 C_3 L_1 L_4 R_3 g_m s^4 + C_3 L_4 R_3 g_m s^2 + L_4 g_m s + s^3 \left(C_1 L_1 L_4 g_m + C_3 L_3 L_4 g_m\right)}{2C_1 C_3 C_4 L_1 L_3 L_4 g_m s^6 + 2g_m + s^5 \left(2C_1 C_3 C_4 L_1 L_4 R_3 g_m + 2C_1 C_3 C_4 L_3 L_4\right) + s^4 \left(2C_1 C_3 C_4 L_4 R_3 + 2C_1 C_3 L_1 L_3 g_m + C_1 C_3 L_1 L_4 g_m + 2C_1 C_4 L_1 L_4 g_m + 2C_3 C_4 L_3 L_4 g_m\right) + s^3 \left(2C_1 C_3 L_1 R_3 g_m + 2C_1 C_3 L_3 + C_1 C_3 L_4 + 2C_1 C_4 L_4 + 2C_3 C_4 L_4 R_3 g_m\right) + s^2 \left(2C_1 C_3 R_3 + 2C_1 \cdots\right)}$$

**10.504** **INVALID-ORDER-504** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 g_m s^6 + g_m + s^5 \left(C_1 C_3 C_4 L_1 L_3 R_4 g_m + C_1 C_3 C_4 L_1 L_4 R_3 g_m\right) + s^4 \left(C_1 C_3 C_4 L_1 R_3 R_4 g_m + C_1 C_3 L_1 L_3 g_m + C_1 C_4 L_1 L_4 g_m + C_3 C_4 L_3 L_4 g_m\right) + s^3 \left(C_1 C_3 L_1 R_3 g_m + C_1 C_4 L_1 R_4 g_m + C_3 C_4 L_3 R_4 g_m + C_3 C_4 L_4 R_3 g_m\right) + s^2 \left(C_1 L_1 g_m + C_3 C_4 R_3 R_4 g_m + C_3 L_3 g_m \cdots\right)}{s^5 \left(2C_1 C_3 C_4 L_1 L_3 g_m + C_1 C_3 C_4 L_1 L_4 g_m\right) + s^4 \left(2C_1 C_3 C_4 L_1 R_3 g_m + C_1 C_3 C_4 L_1 R_4 g_m + 2C_1 C_3 C_4 L_3 + C_1 C_3 C_4 L_4\right) + s^3 \left(2C_1 C_3 C_4 R_3 + C_1 C_3 C_4 R_4 + C_1 C_3 L_1 g_m + 2C_1 C_4 L_1 g_m + 2C_3 C_4 L_3 g_m + C_3 C_4 L_4 g_m\right) + s^2 \left(C_1 C_3 + 2C_1 C_4 + 2C_3 C_4 R_3 g_m + C_3 C_4 \cdots\right)}$$

**10.505** **INVALID-ORDER-505** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 L_1 L_3 L_4 R_4 g_m s^5 + C_1 C_3 L_1 L_4 R_3 R_4 g_m s^4 + C_3 L_4 R_3 R_4 \cdots}{2C_1 C_3 C_4 L_1 L_3 L_4 R_4 g_m s^6 + 2R_4 g_m + s^5 \left(2C_1 C_3 C_4 L_1 L_4 R_3 R_4 g_m + 2C_1 C_3 C_4 L_3 L_4 R_4 + 2C_1 C_3 L_1 L_3 L_4 g_m\right) + s^4 \left(2C_1 C_3 C_4 L_4 R_3 R_4 + 2C_1 C_3 L_1 L_3 R_4 g_m + 2C_1 C_3 L_1 L_4 R_3 g_m + C_1 C_3 L_1 L_4 R_4 g_m + 2C_1 C_3 L_3 L_4 + 2C_1 C_4 L_1 L_4 R_4 g_m + 2C_3 C_4 L_3 L_4 R_4 g_m\right) + s^3 \left(2C_1 C_3 L_1 \cdots\right)}$$

**10.506** **INVALID-ORDER-506** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 R_4 g_m s^6 + R_4 g_m + s^5 \left(C_1 C_3 C_4 L_1 L_4 R_3 R_4 g_m + C_1 C_3 L_1 L_3 L_4 g_m\right) + s^4 \left(C_1 C_3 L_1 L_3 R_4 g_m + C_1 C_3 L_1 L_4 R_3 g_m + C_1 C_4 L_1 L_4 R_4 g_m + C_3 C_4 L_3 L_4 R_4 g_m\right) + s^3 \left(C_1 C_3 L_1 R_3 R_4 g_m + C_1 L_1 L_4 g_m + C_3 C_4 L_4 R_3 R_4 \cdots\right)}{2C_1 C_3 C_4 L_1 L_3 L_4 g_m s^6 + 2g_m + s^5 \left(2C_1 C_3 C_4 L_1 L_4 R_3 g_m + C_1 C_3 C_4 L_1 L_4 R_4 g_m + 2C_1 C_3 C_4 L_3 L_4\right) + s^4 \left(2C_1 C_3 C_4 L_4 R_3 + C_1 C_3 C_4 L_4 R_4 + 2C_1 C_3 L_1 L_3 g_m + C_1 C_3 L_1 L_4 g_m + 2C_1 C_4 L_1 L_4 g_m + 2C_3 C_4 L_3 L_4 g_m\right) + s^3 \left(2C_1 C_3 L_1 R_3 g_m + C_1 C_3 L_1 R_4 g_m + 2C_1 C_3 L_3 + C_1 C_3 \cdots\right)}$$

**10.507** **INVALID-ORDER-507** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 R_4 g_m s^6 + C_1 C_3 C_4 L_1 L_4 R_3 R_4 g_m s^5 + C_3 R_3 R_4 g_m s + R_4 g_m + s^4 \left(C_1 C_3 L_1 L_3 R_4 g_m + C_1 C_3 \cdots\right)}{2C_1 C_3 C_4 L_1 L_3 L_4 g_m s^6 + 2g_m + s^5 \left(2C_1 C_3 C_4 L_1 L_3 R_4 g_m + 2C_1 C_3 C_4 L_1 L_4 R_3 g_m + C_1 C_3 C_4 L_1 L_4 R_4 g_m + 2C_1 C_3 C_4 L_3 L_4\right) + s^4 \left(2C_1 C_3 C_4 L_1 R_3 R_4 g_m + 2C_1 C_3 C_4 L_3 R_4 + 2C_1 C_3 C_4 L_4 R_3 + C_1 C_3 C_4 L_4 R_4 + 2C_1 C_3 L_1 L_3 g_m + 2C_1 C_4 L_1 L_4 g_m + 2C_3 C_4 L_3 L_4 g_m\right) + s^3 \left(2C_1 \cdots\right)}$$

**10.508** **INVALID-ORDER-508** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ R_4, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_1 L_3 R_3 R_4 g_m s^3 + L_3 R_3 R_4 g_m s}{C_1 C_3 L_1 L_3 R_3 R_4 g_m s^4 + R_3 R_4 g_m + s^3 \left(C_1 C_3 L_3 R_3 R_4 + 2 C_1 L_1 L_3 R_3 g_m + C_1 L_1 L_3 R_4 g_m\right) + s^2 \left(C_1 L_1 R_3 R_4 g_m + 2 C_1 L_3 R_3 + C_1 L_3 R_4 + C_3 L_3 R_3 R_4 g_m\right) + s \left(C_1 R_3 R_4 + 2 L_3 R_3 g_m + L_3 R_4 g_m\right)}$$

**10.509** **INVALID-ORDER-509** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_1 L_3 R_3 g_m s^3 + L_3 R_3 g_m s}{R_3 g_m + s^4 \left(C_1 C_3 L_1 L_3 R_3 g_m + 2 C_1 C_4 L_1 L_3 R_3 g_m\right) + s^3 \left(C_1 C_3 L_3 R_3 + 2 C_1 C_4 L_3 R_3 + C_1 L_1 L_3 g_m\right) + s^2 \left(C_1 L_1 R_3 g_m + C_1 L_3 + C_3 L_3 R_3 g_m + 2 C_4 L_3 R_3 g_m\right) + s \left(C_1 R_3 + L_3 g_m\right)}$$

**10.510** **INVALID-ORDER-510** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_1 L_3 R_3 R_4 g_m s^3 + L_3 R_3 R_4 g_m s}{R_3 R_4 g_m + s^4 \left(C_1 C_3 L_1 L_3 R_3 R_4 g_m + 2 C_1 C_4 L_1 L_3 R_3 R_4 g_m\right) + s^3 \left(C_1 C_3 L_3 R_3 R_4 + 2 C_1 C_4 L_3 R_3 R_4 + 2 C_1 L_1 L_3 R_3 g_m + C_1 L_1 L_3 R_4 g_m\right) + s^2 \left(C_1 L_1 R_3 R_4 g_m + 2 C_1 L_3 R_3 + C_1 L_3 R_4 + C_3 L_3 R_3 R_4 g_m + 2 C_4 L_3 R_3 R_4 g_m\right) + s \left(C_1 R_3 R_4 + 2 L_3 R_3 g_m + L_3 R_4 g_m\right)}$$

**10.511** **INVALID-ORDER-511** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_1 L_3 R_3 R_4 g_m s^4 + C_1 L_1 L_3 R_3 g_m s^3 + C_4 L_3 R_3 R_4 g_m s^2 + L_3 R_3 g_m s}{C_1 C_3 C_4 L_1 L_3 R_3 R_4 g_m s^5 + R_3 g_m + s^4 \left(C_1 C_3 C_4 L_3 R_3 R_4 + C_1 C_3 L_1 L_3 R_3 g_m + 2 C_1 C_4 L_1 L_3 R_3 g_m + C_1 C_4 L_1 L_3 R_4 g_m\right) + s^3 \left(C_1 C_3 L_3 R_3 + C_1 C_4 L_1 R_3 R_4 g_m + 2 C_1 C_4 L_3 R_3 + C_1 C_4 L_3 R_4 + C_1 L_1 L_3 g_m + C_3 C_4 L_3 R_3 R_4 g_m\right) + s^2 \left(C_1 C_4 R_3 R_4 + C_1 L_1 R_3 g_m + C_1 L_3 + C_3 L_3 \cdots\right)}$$

**10.512** **INVALID-ORDER-512** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_1 L_3 L_4 R_3 g_m s^5 + L_3 R_3 g_m s + s^3 \left(C_1 L_1 L_3 R_3 g_m + C_4 L_3 L_4 R_3 g_m\right)}{C_1 C_3 C_4 L_1 L_3 L_4 R_3 g_m s^6 + R_3 g_m + s^5 \left(C_1 C_3 C_4 L_3 L_4 R_3 + C_1 C_4 L_1 L_3 L_4 g_m\right) + s^4 \left(C_1 C_3 L_1 L_3 R_3 g_m + 2 C_1 C_4 L_1 L_3 R_3 g_m + C_1 C_4 L_1 L_4 R_3 g_m + C_1 C_4 L_3 L_4 + C_3 C_4 L_3 L_4 R_3 g_m\right) + s^3 \left(C_1 C_3 L_3 R_3 + 2 C_1 C_4 L_3 R_3 + C_1 C_4 L_4 R_3 + C_1 L_1 L_3 g_m + C_4 L_3 L_4 g_m\right) + s^2 \left(C_1 L_1 R_3 g_m \cdots\right)}$$

**10.513** **INVALID-ORDER-513** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_1 L_3 L_4 R_3 g_m s^3 + L_3 L_4 R_3 g_m s}{2 L_3 R_3 g_m + L_4 R_3 g_m + s^4 \left(C_1 C_3 L_1 L_3 L_4 R_3 g_m + 2 C_1 C_4 L_1 L_3 L_4 R_3 g_m\right) + s^3 \left(C_1 C_3 L_3 L_4 R_3 + 2 C_1 C_4 L_3 L_4 R_3 + C_1 L_1 L_3 L_4 g_m\right) + s^2 \left(2 C_1 L_1 L_3 R_3 g_m + C_1 L_1 L_4 R_3 g_m + C_1 L_3 L_4 + C_3 L_3 L_4 R_3 g_m + 2 C_4 L_3 L_4 R_3 g_m\right) + s \left(2 C_1 L_3 R_3 + C_1 L_4 R_3 + L_3 L_4 g_m\right)}$$

**10.514** **INVALID-ORDER-514** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_1 L_3 L_4 R_3 g_m s^5 + C_1 C_4 L_1 L_3 R_3 R_4 g_m s^4 + C_4 L_3 R_3 R_4 g_m s^2 + L_3 R_3 \cdots}{C_1 C_3 C_4 L_1 L_3 L_4 R_3 g_m s^6 + R_3 g_m + s^5 \left(C_1 C_3 C_4 L_1 L_3 R_3 R_4 g_m + C_1 C_3 C_4 L_3 L_4 R_3 + C_1 C_4 L_1 L_3 L_4 g_m\right) + s^4 \left(C_1 C_3 C_4 L_3 R_3 R_4 + C_1 C_3 L_1 L_3 R_3 g_m + 2 C_1 C_4 L_1 L_3 R_3 g_m + C_1 C_4 L_1 L_3 R_4 g_m + C_1 C_4 L_1 L_4 R_3 g_m + C_1 C_4 L_3 L_4 + C_3 C_4 L_3 L_4 R_3 g_m\right) + s^3 \left(C_1 C_3 L_3 R_3 + C_1 C_4 L_1 \cdots\right)}$$

**10.515** **INVALID-ORDER-515** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_1 L_3 L_4 R_3 R_4 g_m s^3 + L_3 L_4 R_3 R_4 g_m s}{2 L_3 R_3 R_4 g_m + L_4 R_3 R_4 g_m + s^4 \left(C_1 C_3 L_1 L_3 L_4 R_3 R_4 g_m + 2 C_1 C_4 L_1 L_3 L_4 R_3 R_4 g_m\right) + s^3 \left(C_1 C_3 L_3 L_4 R_3 R_4 + 2 C_1 C_4 L_3 L_4 R_3 R_4 + 2 C_1 L_1 L_3 L_4 R_3 g_m + C_1 L_1 L_3 L_4 R_4 g_m\right) + s^2 \left(2 C_1 L_1 L_3 R_3 R_4 g_m + C_1 L_1 L_4 R_3 R_4 g_m + 2 C_1 L_3 L_4 R_3 + C_1 L_3 L_4 R_4 + C_3 L_3 L_4 R_3 R_4 g_m + 2 C_\cdots\right)}$$

**10.516** **INVALID-ORDER-516** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_1 L_3 L_4 R_3 R_4 g_m s^5 + C_1 L_1 L_3 L_4 \cdots}{C_1 C_3 C_4 L_1 L_3 L_4 R_3 R_4 g_m s^6 + R_3 R_4 g_m + s^5 \left(C_1 C_3 C_4 L_3 L_4 R_3 R_4 + C_1 C_3 L_1 L_3 L_4 R_3 g_m + 2 C_1 C_4 L_1 L_3 L_4 R_3 g_m + C_1 C_4 L_1 L_3 L_4 R_4 g_m\right) + s^4 \left(C_1 C_3 L_1 L_3 R_3 R_4 g_m + C_1 C_3 L_3 L_4 R_3 + C_1 C_4 L_1 L_4 R_3 R_4 g_m + 2 C_1 C_4 L_3 L_4 R_3 + C_1 C_4 L_3 L_4 R_4 + C_1 L_1 L_3 L_4 g_m + C_3 C_4 L_3 L_4 R_3 R_4 g_m\right) + \cdots}$$

**10.517** **INVALID-ORDER-517** $Z(s) = \left(L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{R_4 \left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_1 L_3 L_4 R_3 R_4 g_m s^5 + L_3 R_3 R_4 g_m s + s^3 \left(C_1 L_1 L_3 R_3 \cdots\right)}{C_1 C_3 C_4 L_1 L_3 L_4 R_3 R_4 g_m s^6 + R_3 R_4 g_m + s^5 \left(C_1 C_3 C_4 L_3 L_4 R_3 R_4 + 2 C_1 C_4 L_1 L_3 L_4 R_3 g_m + C_1 C_4 L_1 L_3 L_4 R_4 g_m\right) + s^4 \left(C_1 C_3 L_1 L_3 R_3 R_4 g_m + 2 C_1 C_4 L_1 L_3 R_3 R_4 g_m + C_1 C_4 L_1 L_4 R_3 R_4 g_m + 2 C_1 C_4 L_3 L_4 R_3 + C_1 C_4 L_3 L_4 R_4 + C_3 C_4 L_3 L_4 R_3 R_4 g_m\right) + s^3 \left(C_1 C_3 L_3 R_3 R_4 + 2 C \cdots\right)}$$

**10.518** **INVALID-ORDER-518** $Z(s) = \left( L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 L_1 L_3 R_3 R_4 g_m s^4 + C_1 L_1 L_3 R_4 g_m s^3 + L_3 R_4 g_m s + R_3 R_4 g_m + s^2 \left( C_1 L_1 R_3 R_4 g_m + C_3 L_3 R_3 R_4 g_m \right)}{2 R_3 g_m + R_4 g_m + s^4 \left( 2 C_1 C_3 L_1 L_3 R_3 g_m + C_1 C_3 L_1 L_3 R_4 g_m \right) + s^3 \left( 2 C_1 C_3 L_3 R_3 + C_1 C_3 L_3 R_4 + 2 C_1 L_1 L_3 g_m \right) + s^2 \left( 2 C_1 L_1 R_3 g_m + C_1 L_1 R_4 g_m + 2 C_1 L_3 + 2 C_3 L_3 R_3 g_m + C_3 L_3 R_4 g_m \right) + s \left( 2 C_1 R_3 + C_1 R_4 + 2 L_3 g_m \right)}$$

**10.519** **INVALID-ORDER-519** $Z(s) = \left( L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 L_1 L_3 R_3 g_m s^4 + C_1 L_1 L_3 g_m s^3 + L_3 g_m s + R_3 g_m + s^2 \left( C_1 L_1 R_3 g_m + C_3 L_3 R_3 g_m \right)}{2 C_1 C_3 C_4 L_1 L_3 R_3 g_m s^5 + g_m + s^4 \left( 2 C_1 C_3 C_4 L_3 R_3 + C_1 C_3 L_1 L_3 g_m + 2 C_1 C_4 L_1 L_3 g_m \right) + s^3 \left( C_1 C_3 L_3 + 2 C_1 C_4 L_1 R_3 g_m + 2 C_1 C_4 L_3 + 2 C_3 C_4 L_3 R_3 g_m \right) + s^2 \left( 2 C_1 C_4 R_3 + C_1 L_1 g_m + C_3 L_3 g_m + 2 C_4 L_3 g_m \right) + s \left( C_1 + 2 C_4 R_3 g_m \right)}$$

**10.520** **INVALID-ORDER-520** $Z(s) = \left( L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 L_1 L_3 R_3 R_4 g_m s^4 + C_1 L_1 L_3 R_4 g_m s^3 + L_3 R_4 g_m s + R_3 R_4 g_m + s^2 \left( C_1 L_1 R_3 R_4 g_m + C_3 L_3 R_3 R_4 g_m \right)}{2 C_1 C_3 C_4 L_1 L_3 R_3 R_4 g_m s^5 + 2 R_3 g_m + R_4 g_m + s^4 \left( 2 C_1 C_3 C_4 L_3 R_3 R_4 + 2 C_1 C_3 L_1 L_3 R_3 g_m + C_1 C_3 L_1 L_3 R_4 g_m + 2 C_1 C_4 L_1 L_3 R_4 g_m \right) + s^3 \left( 2 C_1 C_3 L_3 R_3 + C_1 C_3 L_3 R_4 + 2 C_1 C_4 L_1 R_3 R_4 g_m + 2 C_1 C_4 L_3 R_4 + 2 C_1 L_1 L_3 g_m + 2 C_3 C_4 L_3 R_3 R_4 g_m \right) + s^2 \left( 2 C_1 C_4 R_3 R_4 + 2 C_1 L_1 R_{\ldots} \right)}$$

**10.521** **INVALID-ORDER-521** $Z(s) = \left( L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 R_3 R_4 g_m s^5 + R_3 g_m + s^4 \left( C_1 C_3 L_1 L_3 R_3 g_m + C_1 C_4 L_1 L_3 R_4 g_m \right) + s^3 \left( C_1 C_4 L_1 R_3 R_4 g_m + C_1 L_1 L_3 g_m + C_3 C_4 L_3 R_3 R_4 g_m \right) + s^2 \left( C_1 L_1 R_3 g_m + C_3 L_3 R_3 g_m + C_4 L_3 R_4 g_m \right) + s \left( C_4 R_3 R_4 g_m + L_3 g_m \right)}{g_m + s^5 \left( 2 C_1 C_3 C_4 L_1 L_3 R_3 g_m + C_1 C_3 C_4 L_1 L_3 R_4 g_m \right) + s^4 \left( 2 C_1 C_3 C_4 L_3 R_3 + C_1 C_3 C_4 L_3 R_4 + C_1 C_3 L_1 L_3 g_m + 2 C_1 C_4 L_1 L_3 g_m \right) + s^3 \left( C_1 C_3 L_3 + 2 C_1 C_4 L_1 R_3 g_m + C_1 C_4 L_1 R_4 g_m + 2 C_1 C_4 L_3 + 2 C_3 C_4 L_3 R_3 g_m + C_3 C_4 L_3 R_4 g_m \right) + s^2 \left( 2 C_1 C_4 R_3 + C_1 C_4 R_4 + C_1 L_1 g_m + {\ldots} \right)}$$

**10.522** **INVALID-ORDER-522** $Z(s) = \left( L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 R_3 g_m s^6 + C_1 C_4 L_1 L_3 L_4 g_m s^5 + L_3 g_m s + R_3 g_m + s^4 \left( C_1 C_3 L_1 L_3 R_3 g_m + C_1 C_4 L_1 L_4 R_3 g_m + C_3 C_4 L_3 L_4 R_3 g_m \right) + s^3 \left( C_1 L_1 L_3 g_m + C_4 L_3 L_4 g_m \right) + s^2 \left( C_1 L_1 R_3 g_m + C_3 L_3 R_3 g_m + C_4 L_4 R_3 g_m \right)}{C_1 C_3 C_4 L_1 L_3 L_4 g_m s^6 + g_m + s^5 \left( 2 C_1 C_3 C_4 L_1 L_3 R_3 g_m + C_1 C_3 C_4 L_3 L_4 \right) + s^4 \left( 2 C_1 C_3 C_4 L_3 R_3 + C_1 C_3 L_1 L_3 g_m + 2 C_1 C_4 L_1 L_3 g_m + C_1 C_4 L_1 L_4 g_m + C_3 C_4 L_3 L_4 g_m \right) + s^3 \left( C_1 C_3 L_3 + 2 C_1 C_4 L_1 R_3 g_m + 2 C_1 C_4 L_3 + C_1 C_4 L_4 + 2 C_3 C_4 L_3 R_3 g_m \right) + s^2 \left( 2 C_1 C_4 R_3 + C_1 L_1 g_m + {\ldots} \right)}$$

**10.523** **INVALID-ORDER-523** $Z(s) = \left( L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 L_1 L_3 L_4 R_3 g_m s^5 + C_1 L_1 L_3 L_4 g_m s^4 + L_3 L_4 g_m s^2 + L_4 R_3 g_m s + s^3 \left( C_1 L_1 L_4 R_3 g_m + C_3 L_3 L_4 R_3 g_m \right)}{2 C_1 C_3 C_4 L_1 L_3 L_4 R_3 g_m s^6 + 2 R_3 g_m + s^5 \left( 2 C_1 C_3 C_4 L_3 L_4 R_3 + C_1 C_3 L_1 L_3 L_4 g_m + 2 C_1 C_4 L_1 L_3 L_4 g_m \right) + s^4 \left( 2 C_1 C_3 L_1 L_3 R_3 g_m + C_1 C_3 L_3 L_4 + 2 C_1 C_4 L_1 L_4 R_3 g_m + 2 C_1 C_4 L_3 L_4 + 2 C_3 C_4 L_3 L_4 R_3 g_m \right) + s^3 \left( 2 C_1 C_3 L_3 R_3 + 2 C_1 C_4 L_4 R_3 + 2 C_1 L_1 L_3 g_m + C_1 L_1 L_4 g_m + C_3 L_{\ldots} \right)}$$

**10.524** **INVALID-ORDER-524** $Z(s) = \left( L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 R_3 g_m s^6 + R_3 g_m + s^5 \left( C_1 C_3 C_4 L_1 L_3 R_3 R_4 g_m + C_1 C_4 L_1 L_3 L_4 g_m \right) + s^4 \left( C_1 C_3 L_1 L_3 R_3 g_m + C_1 C_4 L_1 L_3 R_4 g_m + C_1 C_4 L_1 L_4 R_3 g_m + C_3 C_4 L_3 L_4 R_3 g_m \right) + s^3 \left( C_1 C_4 L_1 R_3 R_4 g_m + C_1 L_1 L_3 g_m + C_3 C_4 L_3 R_3 R_4 g_m + {\ldots} \right)}{C_1 C_3 C_4 L_1 L_3 L_4 g_m s^6 + g_m + s^5 \left( 2 C_1 C_3 C_4 L_1 L_3 R_3 g_m + C_1 C_3 C_4 L_1 L_3 R_4 g_m + C_1 C_3 C_4 L_3 L_4 \right) + s^4 \left( 2 C_1 C_3 C_4 L_3 R_3 + C_1 C_3 C_4 L_3 R_4 + C_1 C_3 L_1 L_3 g_m + 2 C_1 C_4 L_1 L_3 g_m + C_1 C_4 L_1 L_4 g_m + C_3 C_4 L_3 L_4 g_m \right) + s^3 \left( C_1 C_3 L_3 + 2 C_1 C_4 L_1 R_3 g_m + C_1 C_4 L_1 R_4 g_m + 2 C_1 C_4 L_3 + C_{\ldots} \right)}$$

**10.525** **INVALID-ORDER-525** $Z(s) = \left( L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 L_1 L_3 L_4 R_3 R_4 g_m s^5 + {\ldots}}{2 C_1 C_3 C_4 L_1 L_3 L_4 R_3 R_4 g_m s^6 + 2 R_3 R_4 g_m + s^5 \left( 2 C_1 C_3 C_4 L_3 L_4 R_3 R_4 + 2 C_1 C_3 L_1 L_3 L_4 R_3 g_m + C_1 C_3 L_1 L_3 L_4 R_4 g_m + 2 C_1 C_4 L_1 L_3 L_4 R_4 g_m \right) + s^4 \left( 2 C_1 C_3 L_1 L_3 R_3 R_4 g_m + 2 C_1 C_3 L_3 L_4 R_3 + C_1 C_3 L_3 L_4 R_4 + 2 C_1 C_4 L_1 L_4 R_3 R_4 g_m + 2 C_1 C_4 L_3 L_4 R_4 + 2 C_1 L_1 L_3 L_4 g_m + 2 C_3 C_{\ldots} \right)}$$

**10.526** **INVALID-ORDER-526** $Z(s) = \left( L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 R_3 R_4 g_m s^6 + R_3 R_4 g_m + s^5 \left( C_1 C_3 L_1 L_3 L_4 R_3 g_m + C_1 C_4 L_1 L_3 L_4 R_4 g_m \right) + s^4 \left( C_1 C_3 L_1 L_3 R_3 R_4 g_m + C_1 C_4 L_1 L_4 R_3 R_4 g_m + C_1 L_1 L_{\ldots} \right)}{2 R_3 g_m + R_4 g_m + s^6 \left( 2 C_1 C_3 C_4 L_1 L_3 L_4 R_3 g_m + C_1 C_3 C_4 L_1 L_3 L_4 R_4 g_m \right) + s^5 \left( 2 C_1 C_3 C_4 L_3 L_4 R_3 + C_1 C_3 C_4 L_3 L_4 R_4 + C_1 C_3 L_1 L_3 L_4 g_m + 2 C_1 C_4 L_1 L_3 L_4 g_m \right) + s^4 \left( 2 C_1 C_3 L_1 L_3 R_3 g_m + C_1 C_3 L_1 L_3 R_4 g_m + C_1 C_3 L_3 L_4 + 2 C_1 C_4 L_1 L_4 R_3 g_m + C_1 C_4 L_1 L_4 R_4 g_m + 2 C_1 C_4 L_3 L_{\ldots} \right)}$$

**10.527** **INVALID-ORDER-527** $Z(s) = \left( L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{R_4 \left( C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 R_3 R_4 g_m s^6 + C_1 C_4 L_1 L_3 L_4 R_4 g_m {\ldots}}{2 R_3 g_m + R_4 g_m + s^6 \left( 2 C_1 C_3 C_4 L_1 L_3 L_4 R_3 g_m + C_1 C_3 C_4 L_1 L_3 L_4 R_4 g_m \right) + s^5 \left( 2 C_1 C_3 C_4 L_1 L_3 R_3 R_4 g_m + 2 C_1 C_3 C_4 L_3 L_4 R_3 + C_1 C_3 C_4 L_3 L_4 R_4 + 2 C_1 C_4 L_1 L_3 L_4 g_m \right) + s^4 \left( 2 C_1 C_3 C_4 L_3 R_3 R_4 + 2 C_1 C_3 L_1 L_3 R_3 g_m + C_1 C_3 L_1 L_3 R_4 g_m + 2 C_1 C_4 L_1 L_3 R_4 g_m + 2 C_1 C_4 L_1 L_4 R_3 g_m + {\ldots} \right)}$$

**10.528** **INVALID-ORDER-528** $Z(s) = \left( L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 L_1 L_3 R_3 R_4 g_m s^4 + R_3 R_4 g_m + s^2\left(C_1 L_1 R_3 R_4 g_m + C_3 L_3 R_3 R_4 g_m\right)}{2R_3 g_m + R_4 g_m + s^4\left(2C_1 C_3 L_1 L_3 R_3 g_m + C_1 C_3 L_1 L_3 R_4 g_m\right) + s^3\left(C_1 C_3 L_1 R_3 R_4 g_m + 2C_1 C_3 L_3 R_3 + C_1 C_3 L_3 R_4\right) + s^2\left(C_1 C_3 R_3 R_4 + 2C_1 L_1 R_3 g_m + C_1 L_1 R_4 g_m + 2C_3 L_3 R_3 g_m + C_3 L_3 R_4 g_m\right) + s\left(2C_1 R_3 + C_1 R_4 + C_3 R_3 R_4 g_m\right)}$$

**10.529** **INVALID-ORDER-529** $Z(s) = \left( L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 L_1 L_3 R_3 g_m s^4 + R_3 g_m + s^2\left(C_1 L_1 R_3 g_m + C_3 L_3 R_3 g_m\right)}{2C_1 C_3 C_4 L_1 L_3 R_3 g_m s^5 + g_m + s^4\left(2C_1 C_3 C_4 L_3 R_3 + C_1 C_3 L_1 L_3 g_m\right) + s^3\left(C_1 C_3 L_1 R_3 g_m + C_1 C_3 L_3 + 2C_1 C_4 L_1 R_3 g_m + 2C_3 C_4 L_3 R_3 g_m\right) + s^2\left(C_1 C_3 R_3 + 2C_1 C_4 R_3 + C_1 L_1 g_m + C_3 L_3 g_m\right) + s\left(C_1 + C_3 R_3 g_m + 2C_4 R_3 g_m\right)}$$

**10.530** **INVALID-ORDER-530** $Z(s) = \left( L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 L_1 L_3 R_3 R_4 g_m s^4 + R_3 R_4 g_m + s^2\left(C_1 L_1 R_3 R_4 g_m + C_3 L_3 R_3 R_4 g_m\right)}{2C_1 C_3 C_4 L_1 L_3 R_3 R_4 g_m s^5 + 2R_3 g_m + R_4 g_m + s^4\left(2C_1 C_3 C_4 L_3 R_3 R_4 + 2C_1 C_3 L_1 L_3 R_3 g_m + C_1 C_3 L_1 L_3 R_4 g_m\right) + s^3\left(C_1 C_3 L_1 R_3 R_4 g_m + 2C_1 C_3 L_3 R_3 + C_1 C_3 L_3 R_4 + 2C_1 C_4 L_1 R_3 R_4 g_m + 2C_3 C_4 L_3 R_3 R_4 g_m\right) + s^2\left(C_1 C_3 R_3 R_4 + 2C_1 C_4 R_3 R_4 + 2C_1 L_1 R_3 g_m + C_1 L_1 R_4 g_m\right)}$$

**10.531** **INVALID-ORDER-531** $Z(s) = \left( L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 R_3 R_4 g_m s^5 + C_1 C_3 L_1 L_3 R_3 g_m s^4 + C_4 R_3 R_4 g_m s + R_3 g_m + s^3\left(C_1 C_4 L_1 R_3 R_4 g_m + C_3 C_4 L_3 R_3 R_4 g_m\right) + s^2\left(C_1 L_1 R_3 g_m + C_3 L_3 R_3 g_m\right)}{g_m + s^5\left(2C_1 C_3 C_4 L_1 L_3 R_3 g_m + C_1 C_3 C_4 L_1 L_3 R_4 g_m\right) + s^4\left(C_1 C_3 C_4 L_1 R_3 R_4 g_m + 2C_1 C_3 C_4 L_3 R_3 + C_1 C_3 C_4 L_3 R_4 + C_1 C_3 L_1 L_3 g_m\right) + s^3\left(C_1 C_3 C_4 R_3 R_4 + C_1 C_3 L_1 R_3 g_m + C_1 C_3 L_3 + 2C_1 C_4 L_1 R_3 g_m + C_1 C_4 L_1 R_4 g_m + 2C_3 C_4 L_3 R_3 g_m + C_3 C_4 L_3 R_4 g_m\right) + s^2\left(C_1 C_3 R_3\right)}$$

**10.532** **INVALID-ORDER-532** $Z(s) = \left( L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 R_3 g_m s^6 + R_3 g_m + s^4\left(C_1 C_3 L_1 L_3 R_3 g_m + C_1 C_4 L_1 L_4 R_3 g_m + C_3 C_4 L_3 L_4 R_3 g_m\right) + s^2\left(C_1 L_1 R_3 g_m + C_3 L_3 R_3 g_m + C_4 L_4 R_3 g_m\right)}{C_1 C_3 C_4 L_1 L_3 L_4 g_m s^6 + g_m + s^5\left(2C_1 C_3 C_4 L_1 L_3 R_3 g_m + C_1 C_3 C_4 L_1 L_4 R_3 g_m + C_1 C_3 C_4 L_3 L_4\right) + s^4\left(2C_1 C_3 C_4 L_3 R_3 + C_1 C_3 C_4 L_4 R_3 + C_1 C_3 L_1 L_3 g_m + C_1 C_4 L_1 L_4 g_m + C_3 C_4 L_3 L_4 g_m\right) + s^3\left(C_1 C_3 L_1 R_3 g_m + C_1 C_3 L_3 + 2C_1 C_4 L_1 R_3 g_m + C_1 C_4 L_4 + 2C_3 C_4 L_3 R_3 g_m + C}$$

**10.533** **INVALID-ORDER-533** $Z(s) = \left( L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 L_1 L_3 L_4 R_3 g_m s^5 + L_4 R_3 g_m s + s^3\left(C_1 L_1 L_4 R_3 g_m + C_3 L_3 L_4 R_3 g_m\right)}{2C_1 C_3 C_4 L_1 L_3 L_4 R_3 g_m s^6 + 2R_3 g_m + s^5\left(2C_1 C_3 C_4 L_3 L_4 R_3 + C_1 C_3 L_1 L_3 L_4 g_m\right) + s^4\left(2C_1 C_3 L_1 L_3 R_3 g_m + C_1 C_3 L_1 L_4 R_3 g_m + C_1 C_3 L_3 L_4 + 2C_1 C_4 L_1 L_4 R_3 g_m + 2C_3 C_4 L_3 L_4 R_3 g_m\right) + s^3\left(2C_1 C_3 L_3 R_3 + C_1 C_3 L_4 R_3 + 2C_1 C_4 L_4 R_3 + C_1 L_1 L_4 g_m + C_3 L_3 L_4 g_m\right) + s^2\left(2C_1\right.}$$

**10.534** **INVALID-ORDER-534** $Z(s) = \left( L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 R_3 g_m s^6 + C_1 C_3 C_4 L_1 L_3 R_3 R_4 g_m s^5 + C_4 R_3 R_4 g_m s + R_3 g_m + s^4\left(C_1 C_3 L_1 L_3 R_3 g_m + C_1 C_4 L_1 L_4 R_3 g_m\right)}{C_1 C_3 C_4 L_1 L_3 L_4 g_m s^6 + g_m + s^5\left(2C_1 C_3 C_4 L_1 L_3 R_3 g_m + C_1 C_3 C_4 L_1 L_3 R_4 g_m + C_1 C_3 C_4 L_1 L_4 R_3 g_m + C_1 C_3 C_4 L_3 L_4\right) + s^4\left(C_1 C_3 C_4 L_1 R_3 R_4 g_m + 2C_1 C_3 C_4 L_3 R_3 + C_1 C_3 C_4 L_3 R_4 + C_1 C_3 C_4 L_4 R_3 + C_1 C_3 L_1 L_3 g_m + C_1 C_4 L_1 L_4 g_m + C_3 C_4 L_3 L_4 g_m\right) + s^3\left(C_1 C_3 C_4 R_3 R_4\right.}$$

**10.535** **INVALID-ORDER-535** $Z(s) = \left( L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 L_1 L_3 L_4 R_3 R_4 g_m s^5 + L_4 R_3 R_4 g_m s + s^3\left(C_1 L_1\right.}{2C_1 C_3 C_4 L_1 L_3 L_4 R_3 R_4 g_m s^6 + 2R_3 R_4 g_m + s^5\left(2C_1 C_3 C_4 L_3 L_4 R_3 R_4 + 2C_1 C_3 L_1 L_3 L_4 R_3 g_m + C_1 C_3 L_1 L_3 L_4 R_4 g_m\right) + s^4\left(2C_1 C_3 L_1 L_3 R_3 R_4 g_m + C_1 C_3 L_1 L_4 R_3 R_4 g_m + 2C_1 C_3 L_3 L_4 R_3 + C_1 C_3 L_3 L_4 R_4 + 2C_1 C_4 L_1 L_4 R_3 R_4 g_m + 2C_3 C_4 L_3 L_4 R_3 R_4 g_m\right) + s^3\left(2C_1 C_3 L_3 R_3\right.}$$

**10.536** **INVALID-ORDER-536** $Z(s) = \left( L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 R_3 R_4 g_m s^6 + C_1 C_3 L_1 L_3 L_4 R_3 g_m s^5 + L_4 R}{2R_3 g_m + R_4 g_m + s^6\left(2C_1 C_3 C_4 L_1 L_3 L_4 R_3 g_m + C_1 C_3 C_4 L_1 L_3 L_4 R_4 g_m\right) + s^5\left(C_1 C_3 C_4 L_1 L_4 R_3 R_4 g_m + 2C_1 C_3 C_4 L_3 L_4 R_3 + C_1 C_3 C_4 L_3 L_4 R_4 + C_1 C_3 L_1 L_3 L_4 g_m\right) + s^4\left(C_1 C_3 C_4 L_4 R_3 R_4 + 2C_1 C_3 L_1 L_3 R_3 g_m + C_1 C_3 L_1 L_3 R_4 g_m + C_1 C_3 L_1 L_4 R_3 g_m + C_1 C_3 L_3 L_4 + 2C_1 C_4\right.}$$

**10.537** **INVALID-ORDER-537** $Z(s) = \left( L_1 s + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3 \left( C_3 L_3 s^2 + 1 \right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{R_4 \left( C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 R_3 R_4 g_r}{2R_3 g_m + R_4 g_m + s^6 \left( 2C_1 C_3 C_4 L_1 L_3 L_4 R_3 g_m + C_1 C_3 C_4 L_1 L_3 L_4 R_4 g_m \right) + s^5 \left( 2C_1 C_3 C_4 L_1 L_3 R_3 R_4 g_m + C_1 C_3 C_4 L_1 L_4 R_3 R_4 g_m + 2C_1 C_3 C_4 L_3 L_4 R_3 + C_1 C_3 C_4 L_3 L_4 R_4 \right) + s^4 \left( 2C_1 C_3 C_4 L_3 R_3 R_4 + C_1 C_3 C_4 L_4 R_3 R_4 + 2C_1 C_3 L_1 L_3 R_3 g_m + C_1 C_3 L_1 L_3 R_4 g_m + 2C_1 C_4 L_1 L_4 \right.}$$

**10.538** **INVALID-ORDER-538** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ R_3, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1 R_3 g_m s}{2C_1 C_4 L_1 R_3 s^3 + s^2 \left( C_1 L_1 + 2C_4 L_1 R_3 g_m \right) + s \left( 2C_4 R_3 + L_1 g_m \right) + 1}$$

**10.539** **INVALID-ORDER-539** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ R_3, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1 R_3 R_4 g_m s}{2C_1 C_4 L_1 R_3 R_4 s^3 + 2R_3 + R_4 + s^2 \left( 2C_1 L_1 R_3 + C_1 L_1 R_4 + 2C_4 L_1 R_3 R_4 g_m \right) + s \left( 2C_4 R_3 R_4 + 2L_1 R_3 g_m + L_1 R_4 g_m \right)}$$

**10.540** **INVALID-ORDER-540** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ R_3, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 R_3 R_4 g_m s^2 + L_1 R_3 g_m s}{s^3 \left( 2C_1 C_4 L_1 R_3 + C_1 C_4 L_1 R_4 \right) + s^2 \left( C_1 L_1 + 2C_4 L_1 R_3 g_m + C_4 L_1 R_4 g_m \right) + s \left( 2C_4 R_3 + C_4 R_4 + L_1 g_m \right) + 1}$$

**10.541** **INVALID-ORDER-541** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ R_3, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_4 R_3 g_m s^3 + L_1 R_3 g_m s}{C_1 C_4 L_1 L_4 s^4 + s^3 \left( 2C_1 C_4 L_1 R_3 + C_4 L_1 L_4 g_m \right) + s^2 \left( C_1 L_1 + 2C_4 L_1 R_3 g_m + C_4 L_4 \right) + s \left( 2C_4 R_3 + L_1 g_m \right) + 1}$$

**10.542** **INVALID-ORDER-542** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ R_3, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1 L_4 R_3 g_m s^2}{2C_1 C_4 L_1 L_4 R_3 s^4 + 2R_3 + s^3 \left( C_1 L_1 L_4 + 2C_4 L_1 L_4 R_3 g_m \right) + s^2 \left( 2C_1 L_1 R_3 + 2C_4 L_4 R_3 + L_1 L_4 g_m \right) + s \left( 2L_1 R_3 g_m + L_4 \right)}$$

**10.543** **INVALID-ORDER-543** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ R_3, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_4 R_3 g_m s^3 + C_4 L_1 R_3 R_4 g_m s^2 + L_1 R_3 g_m s}{C_1 C_4 L_1 L_4 s^4 + s^3 \left( 2C_1 C_4 L_1 R_3 + C_1 C_4 L_1 R_4 + C_4 L_1 L_4 g_m \right) + s^2 \left( C_1 L_1 + 2C_4 L_1 R_3 g_m + C_4 L_1 R_4 g_m + C_4 L_4 \right) + s \left( 2C_4 R_3 + C_4 R_4 + L_1 g_m \right) + 1}$$

**10.544** **INVALID-ORDER-544** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ R_3, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1 L_4 R_3 R_4 g_m s^2}{2C_1 C_4 L_1 L_4 R_3 R_4 s^4 + 2R_3 R_4 + s^3 \left( 2C_1 L_1 L_4 R_3 + C_1 L_1 L_4 R_4 + 2C_4 L_1 L_4 R_3 R_4 g_m \right) + s^2 \left( 2C_1 L_1 R_3 R_4 + 2C_4 L_4 R_3 R_4 + 2L_1 L_4 R_3 g_m + L_1 L_4 R_4 g_m \right) + s \left( 2L_1 R_3 R_4 g_m + 2L_4 R_3 + L_4 R_4 \right)}$$

**10.545** **INVALID-ORDER-545** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ R_3, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_4 R_3 R_4 g_m s^3 + L_1 L_4 R_3 g_m s^2 + L_1 R_3 R_4 g_m s}{2R_3 + R_4 + s^4 \left( 2C_1 C_4 L_1 L_4 R_3 + C_1 C_4 L_1 L_4 R_4 \right) + s^3 \left( C_1 L_1 L_4 + 2C_4 L_1 L_4 R_3 g_m + C_4 L_1 L_4 R_4 g_m \right) + s^2 \left( 2C_1 L_1 R_3 + C_1 L_1 R_4 + 2C_4 L_4 R_3 + C_4 L_4 R_4 + L_1 L_4 g_m \right) + s \left( 2L_1 R_3 g_m + L_1 R_4 g_m + L_4 \right)}$$

**10.546 INVALID-ORDER-546** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ R_3, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_4 R_3 R_4 g_m s^3 + L_1 R_3 R_4 g_m s}{2R_3 + R_4 + s^4 \left(2C_1 C_4 L_1 L_4 R_3 + C_1 C_4 L_1 L_4 R_4\right) + s^3 \left(2C_1 C_4 L_1 R_3 R_4 + 2C_4 L_1 L_4 R_3 g_m + C_4 L_1 L_4 R_4 g_m\right) + s^2 \left(2C_1 L_1 R_3 + C_1 L_1 R_4 + 2C_4 L_1 R_3 R_4 g_m + 2C_4 L_4 R_3 + C_4 L_4 R_4\right) + s \left(2C_4 R_3 R_4 + 2L_1 R_3 g_m + L_1 R_4 g_m\right)}$$

**10.547 INVALID-ORDER-547** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{1}{C_3 s}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1 R_4 g_m s}{C_1 C_3 L_1 R_4 s^3 + s^2 \left(2C_1 L_1 + C_3 L_1 R_4 g_m\right) + s \left(C_3 R_4 + 2L_1 g_m\right) + 2}$$

**10.548 INVALID-ORDER-548** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1 R_4 g_m s}{s^3 \left(C_1 C_3 L_1 R_4 + 2C_1 C_4 L_1 R_4\right) + s^2 \left(2C_1 L_1 + C_3 L_1 R_4 g_m + 2C_4 L_1 R_4 g_m\right) + s \left(C_3 R_4 + 2C_4 R_4 + 2L_1 g_m\right) + 2}$$

**10.549 INVALID-ORDER-549** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{1}{C_3 s}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 R_4 g_m s + L_1 g_m}{C_1 C_3 C_4 L_1 R_4 s^3 + C_3 + 2C_4 + s^2 \left(C_1 C_3 L_1 + 2C_1 C_4 L_1 + C_3 C_4 L_1 R_4 g_m\right) + s \left(C_3 C_4 R_4 + C_3 L_1 g_m + 2C_4 L_1 g_m\right)}$$

**10.550 INVALID-ORDER-550** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_4 g_m s^2 + L_1 g_m}{C_1 C_3 C_4 L_1 L_4 s^4 + C_3 C_4 L_1 L_4 g_m s^3 + C_3 + 2C_4 + s^2 \left(C_1 C_3 L_1 + 2C_1 C_4 L_1 + C_3 C_4 L_4\right) + s \left(C_3 L_1 g_m + 2C_4 L_1 g_m\right)}$$

**10.551 INVALID-ORDER-551** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1 L_4 g_m s^2}{2L_1 g_m s + s^4 \left(C_1 C_3 L_1 L_4 + 2C_1 C_4 L_1 L_4\right) + s^3 \left(C_3 L_1 L_4 g_m + 2C_4 L_1 L_4 g_m\right) + s^2 \left(2C_1 L_1 + C_3 L_4 + 2C_4 L_4\right) + 2}$$

**10.552 INVALID-ORDER-552** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{1}{C_3 s}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_4 g_m s^2 + C_4 L_1 R_4 g_m s + L_1 g_m}{C_1 C_3 C_4 L_1 L_4 s^4 + C_3 + 2C_4 + s^3 \left(C_1 C_3 C_4 L_1 R_4 + C_3 C_4 L_1 L_4 g_m\right) + s^2 \left(C_1 C_3 L_1 + 2C_1 C_4 L_1 + C_3 C_4 L_1 R_4 g_m + C_3 C_4 L_4\right) + s \left(C_3 C_4 R_4 + C_3 L_1 g_m + 2C_4 L_1 g_m\right)}$$

**10.553 INVALID-ORDER-553** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1 L_4 R_4 g_m s^2}{2R_4 + s^4 \left(C_1 C_3 L_1 L_4 R_4 + 2C_1 C_4 L_1 L_4 R_4\right) + s^3 \left(2C_1 L_1 L_4 + C_3 L_1 L_4 R_4 g_m + 2C_4 L_1 L_4 R_4 g_m\right) + s^2 \left(2C_1 L_1 R_4 + C_3 L_4 R_4 + 2C_4 L_4 R_4 + 2L_1 L_4 g_m\right) + s \left(2L_1 R_4 g_m + 2L_4\right)}$$

**10.554 INVALID-ORDER-554** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_4 R_4 g_m s^3 + L_1 L_4 g_m s^2 + L_1 R_4 g_m s}{C_1 C_3 C_4 L_1 L_4 R_4 s^5 + s^4 \left(C_1 C_3 L_1 L_4 + 2C_1 C_4 L_1 L_4 + C_3 C_4 L_1 L_4 R_4 g_m\right) + s^3 \left(C_1 C_3 L_1 R_4 + C_3 C_4 L_4 R_4 + C_3 L_1 L_4 g_m + 2C_4 L_1 L_4 g_m\right) + s^2 \left(2C_1 L_1 + C_3 L_1 R_4 g_m + C_3 L_4 + 2C_4 L_4\right) + s \left(C_3 R_4 + 2L_1 g_m\right) + 2}$$

**10.555 INVALID-ORDER-555** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_4 R_4 g_m s^3 + L_1 R_4 g_m s}{C_1 C_3 C_4 L_1 L_4 R_4 s^5 + s^4 \left(2C_1 C_4 L_1 L_4 + C_3 C_4 L_1 L_4 R_4 g_m\right) + s^3 \left(C_1 C_3 L_1 R_4 + 2C_1 C_4 L_1 R_4 + C_3 C_4 L_4 R_4 + 2C_4 L_1 L_4 g_m\right) + s^2 \left(2C_1 L_1 + C_3 L_1 R_4 g_m + 2C_4 L_1 R_4 g_m + 2C_4 L_4\right) + s \left(C_3 R_4 + 2C_4 R_4 + 2L_1 g_m\right) + 2}$$

**10.556 INVALID-ORDER-556** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \; \infty, \; \frac{R_3}{C_3 R_3 s + 1}, \; R_4, \; \infty, \; \infty \right)$

$$H(s) = \frac{L_1 R_3 R_4 g_m s}{C_1 C_3 L_1 R_3 R_4 s^3 + 2R_3 + R_4 + s^2 \left( 2C_1 L_1 R_3 + C_1 L_1 R_4 + C_3 L_1 R_3 R_4 g_m \right) + s \left( C_3 R_3 R_4 + 2L_1 R_3 g_m + L_1 R_4 g_m \right)}$$

**10.557 INVALID-ORDER-557** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \; \infty, \; \frac{R_3}{C_3 R_3 s + 1}, \; \frac{1}{C_4 s}, \; \infty, \; \infty \right)$

$$H(s) = \frac{L_1 R_3 g_m s}{s^3 \left( C_1 C_3 L_1 R_3 + 2C_1 C_4 L_1 R_3 \right) + s^2 \left( C_1 L_1 + C_3 L_1 R_3 g_m + 2C_4 L_1 R_3 g_m \right) + s \left( C_3 R_3 + 2C_4 R_3 + L_1 g_m \right) + 1}$$

**10.558 INVALID-ORDER-558** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \; \infty, \; \frac{R_3}{C_3 R_3 s + 1}, \; \frac{R_4}{C_4 R_4 s + 1}, \; \infty, \; \infty \right)$

$$H(s) = \frac{L_1 R_3 R_4 g_m s}{2R_3 + R_4 + s^3 \left( C_1 C_3 L_1 R_3 R_4 + 2C_1 C_4 L_1 R_3 R_4 \right) + s^2 \left( 2C_1 L_1 R_3 + C_1 L_1 R_4 + C_3 L_1 R_3 R_4 g_m + 2C_4 L_1 R_3 R_4 g_m \right) + s \left( C_3 R_3 R_4 + 2C_4 R_3 R_4 + 2L_1 R_3 g_m + L_1 R_4 g_m \right)}$$

**10.559 INVALID-ORDER-559** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \; \infty, \; \frac{R_3}{C_3 R_3 s + 1}, \; R_4 + \frac{1}{C_4 s}, \; \infty, \; \infty \right)$

$$H(s) = \frac{C_4 L_1 R_3 R_4 g_m s^2 + L_1 R_3 g_m s}{C_1 C_3 C_4 L_1 R_3 R_4 s^4 + s^3 \left( C_1 C_3 L_1 R_3 + 2C_1 C_4 L_1 R_3 + C_1 C_4 L_1 R_4 + C_3 C_4 L_1 R_3 R_4 g_m \right) + s^2 \left( C_1 L_1 + C_3 C_4 R_3 R_4 + C_3 L_1 R_3 g_m + 2C_4 L_1 R_3 g_m + C_4 L_1 R_4 g_m \right) + s \left( C_3 R_3 + 2C_4 R_3 + C_4 R_4 + L_1 g_m \right) + 1}$$

**10.560 INVALID-ORDER-560** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \; \infty, \; \frac{R_3}{C_3 R_3 s + 1}, \; L_4 s + \frac{1}{C_4 s}, \; \infty, \; \infty \right)$

$$H(s) = \frac{C_4 L_1 L_4 R_3 g_m s^3 + L_1 R_3 g_m s}{C_1 C_3 C_4 L_1 L_4 R_3 s^5 + s^4 \left( C_1 C_4 L_1 L_4 + C_3 C_4 L_1 L_4 R_3 g_m \right) + s^3 \left( C_1 C_3 L_1 R_3 + 2C_1 C_4 L_1 R_3 + C_3 C_4 L_4 R_3 + C_4 L_1 L_4 g_m \right) + s^2 \left( C_1 L_1 + C_3 L_1 R_3 g_m + 2C_4 L_1 R_3 g_m + C_4 L_4 \right) + s \left( C_3 R_3 + 2C_4 R_3 + L_1 g_m \right) + 1}$$

**10.561 INVALID-ORDER-561** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \; \infty, \; \frac{R_3}{C_3 R_3 s + 1}, \; \frac{L_4 s}{C_4 L_4 s^2 + 1}, \; \infty, \; \infty \right)$

$$H(s) = \frac{L_1 L_4 R_3 g_m s^2}{2R_3 + s^4 \left( C_1 C_3 L_1 L_4 R_3 + 2C_1 C_4 L_1 L_4 R_3 \right) + s^3 \left( C_1 L_1 L_4 + C_3 L_1 L_4 R_3 g_m + 2C_4 L_1 L_4 R_3 g_m \right) + s^2 \left( 2C_1 L_1 R_3 + C_3 L_4 R_3 + 2C_4 L_4 R_3 + L_1 L_4 g_m \right) + s \left( 2L_1 R_3 g_m + L_4 \right)}$$

**10.562 INVALID-ORDER-562** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \; \infty, \; \frac{R_3}{C_3 R_3 s + 1}, \; L_4 s + R_4 + \frac{1}{C_4 s}, \; \infty, \; \infty \right)$

$$H(s) = \frac{C_4 L_1 L_4 R_3 g_m s^3 + C_4 L_1 R_3 R_4 g_m s^2 + L_1 R_3 g_m s}{C_1 C_3 C_4 L_1 L_4 R_3 s^5 + s^4 \left( C_1 C_3 C_4 L_1 R_3 R_4 + C_1 C_4 L_1 L_4 + C_3 C_4 L_1 L_4 R_3 g_m \right) + s^3 \left( C_1 C_3 L_1 R_3 + 2C_1 C_4 L_1 R_3 + C_1 C_4 L_1 R_4 + C_3 C_4 L_1 R_3 R_4 g_m + C_3 C_4 L_4 R_3 + C_4 L_1 L_4 g_m \right) + s^2 \left( C_1 L_1 + C_3 C_4 R_3 R_4 + C_3 L_1 R_3 g_m + 2C_4 L_1 R_3 g_m + C_4 L_1 R_4 g_m + C_4 L_4 \right) + s \left( C_3 R_3 + 2C \ldots \right.}$$

**10.563 INVALID-ORDER-563** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \; \infty, \; \frac{R_3}{C_3 R_3 s + 1}, \; \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \; \infty, \; \infty \right)$

$$H(s) = \frac{L_1 L_4 R_3 R_4 g_m s^2}{2R_3 R_4 + s^4 \left( C_1 C_3 L_1 L_4 R_3 R_4 + 2C_1 C_4 L_1 L_4 R_3 R_4 \right) + s^3 \left( 2C_1 L_1 L_4 R_3 + C_1 L_1 L_4 R_4 + C_3 L_1 L_4 R_3 R_4 g_m + 2C_4 L_1 L_4 R_3 R_4 g_m \right) + s^2 \left( 2C_1 L_1 R_3 R_4 + C_3 L_4 R_3 R_4 + 2C_4 L_4 R_3 R_4 + 2L_1 L_4 R_3 g_m + L_1 L_4 R_4 g_m \right) + s \left( 2L_1 R_3 R_4 g_m + 2L_4 R_3 + L_4 R_4 \right)}$$

**10.564 INVALID-ORDER-564** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \; \infty, \; \frac{R_3}{C_3 R_3 s + 1}, \; \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \; \infty, \; \infty \right)$

$$H(s) = \frac{C_4 L_1 L_4 R_3 R_4 g_m s^3 + L_1 L_4 R_3 g_m s^2 + L_1 R_3 R_4 g_m s}{C_1 C_3 C_4 L_1 L_4 R_3 R_4 s^5 + 2R_3 + R_4 + s^4 \left( C_1 C_3 L_1 L_4 R_3 + 2C_1 C_4 L_1 L_4 R_3 + C_1 C_4 L_1 L_4 R_4 + C_3 C_4 L_1 L_4 R_3 R_4 g_m \right) + s^3 \left( C_1 C_3 L_1 R_3 R_4 + C_1 L_1 L_4 + C_3 C_4 L_4 R_3 R_4 + C_3 L_1 L_4 R_3 g_m + 2C_4 L_1 L_4 R_3 g_m + C_4 L_1 L_4 R_4 g_m \right) + s^2 \left( 2C_1 L_1 R_3 + C_1 L_1 R_4 + C_3 L_1 R_3 R_4 g_m + C_3 L_ \ldots \right.}$$

**10.565 INVALID-ORDER-565** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \; \infty, \; \frac{R_3}{C_3 R_3 s + 1}, \; \frac{R_4 \left( C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \; \infty, \; \infty \right)$

$$H(s) = \frac{C_4 L_1 L_4 R_3 R_4 g_m s^3 + L_1 R_3 R_4 g_m s}{C_1 C_3 C_4 L_1 L_4 R_3 R_4 s^5 + 2R_3 + R_4 + s^4 \left( 2C_1 C_4 L_1 L_4 R_3 + C_1 C_4 L_1 L_4 R_4 + C_3 C_4 L_1 L_4 R_3 R_4 g_m \right) + s^3 \left( C_1 C_3 L_1 R_3 R_4 + 2C_1 C_4 L_1 R_3 R_4 + C_3 C_4 L_4 R_3 R_4 + 2C_4 L_1 L_4 R_3 g_m + C_4 L_1 L_4 R_4 g_m \right) + s^2 \left( 2C_1 L_1 R_3 + C_1 L_1 R_4 + C_3 L_1 R_3 R_4 g_m + 2C_4 L_1 R_3 R_4 g_m + 2C_4 L_4 R_3 + C_ \ldots \right.}$$

**10.566  INVALID-ORDER-566** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_1 R_3 R_4 g_m s^2 + L_1 R_4 g_m s}{s^3 \left( 2C_1 C_3 L_1 R_3 + C_1 C_3 L_1 R_4 \right) + s^2 \left( 2C_1 L_1 + 2C_3 L_1 R_3 g_m + C_3 L_1 R_4 g_m \right) + s \left( 2C_3 R_3 + C_3 R_4 + 2L_1 g_m \right) + 2}$$

**10.567  INVALID-ORDER-567** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_1 R_3 g_m s + L_1 g_m}{2C_1 C_3 C_4 L_1 R_3 s^3 + C_3 + 2C_4 + s^2 \left( C_1 C_3 L_1 + 2C_1 C_4 L_1 + 2C_3 C_4 L_1 R_3 g_m \right) + s \left( 2C_3 C_4 R_3 + C_3 L_1 g_m + 2C_4 L_1 g_m \right)}$$

**10.568  INVALID-ORDER-568** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_1 R_3 R_4 g_m s^2 + L_1 R_4 g_m s}{2C_1 C_3 C_4 L_1 R_3 R_4 s^4 + s^3 \left( 2C_1 C_3 L_1 R_3 + C_1 C_3 L_1 R_4 + 2C_1 C_4 L_1 R_4 + 2C_3 C_4 L_1 R_3 R_4 g_m \right) + s^2 \left( 2C_1 L_1 + 2C_3 C_4 R_3 R_4 + 2C_3 L_1 R_3 g_m + C_3 L_1 R_4 g_m + 2C_4 L_1 R_4 g_m \right) + s \left( 2C_3 R_3 + C_3 R_4 + 2C_4 R_4 + 2L_1 g_m \right) + 2}$$

**10.569  INVALID-ORDER-569** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_1 R_3 R_4 g_m s^2 + L_1 g_m + s \left( C_3 L_1 R_3 g_m + C_4 L_1 R_4 g_m \right)}{C_3 + 2C_4 + s^3 \left( 2C_1 C_3 C_4 L_1 R_3 + C_1 C_3 C_4 L_1 R_4 \right) + s^2 \left( C_1 C_3 L_1 + 2C_1 C_4 L_1 + 2C_3 C_4 L_1 R_3 g_m + C_3 C_4 L_1 R_4 g_m \right) + s \left( 2C_3 C_4 R_3 + C_3 C_4 R_4 + C_3 L_1 g_m + 2C_4 L_1 g_m \right)}$$

**10.570  INVALID-ORDER-570** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_1 L_4 R_3 g_m s^3 + C_3 L_1 R_3 g_m s + C_4 L_1 L_4 g_m s^2 + L_1 g_m}{C_1 C_3 C_4 L_1 L_4 s^4 + C_3 + 2C_4 + s^3 \left( 2C_1 C_3 C_4 L_1 R_3 + C_3 C_4 L_1 L_4 g_m \right) + s^2 \left( C_1 C_3 L_1 + 2C_1 C_4 L_1 + 2C_3 C_4 L_1 R_3 g_m + C_3 C_4 L_4 \right) + s \left( 2C_3 C_4 R_3 + C_3 L_1 g_m + 2C_4 L_1 g_m \right)}$$

**10.571  INVALID-ORDER-571** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_1 L_4 R_3 g_m s^3 + L_1 L_4 g_m s^2}{2C_1 C_3 C_4 L_1 L_4 R_3 s^5 + s^4 \left( C_1 C_3 L_1 L_4 + 2C_1 C_4 L_1 L_4 + 2C_3 C_4 L_1 L_4 R_3 g_m \right) + s^3 \left( 2C_1 C_3 L_1 R_3 + 2C_3 C_4 L_4 R_3 + C_3 L_1 L_4 g_m + 2C_4 L_1 L_4 g_m \right) + s^2 \left( 2C_1 L_1 + 2C_3 L_1 R_3 g_m + C_3 L_4 + 2C_4 L_4 \right) + s \left( 2C_3 R_3 + 2L_1 g_m \right) + 2}$$

**10.572  INVALID-ORDER-572** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_1 L_4 R_3 g_m s^3 + L_1 g_m + s^2 \left( C_3 C_4 L_1 R_3 R_4 g_m + C_4 L_1 L_4 g_m \right) + s \left( C_3 L_1 R_3 g_m + C_4 L_1 R_4 g_m \right)}{C_1 C_3 C_4 L_1 L_4 s^4 + C_3 + 2C_4 + s^3 \left( 2C_1 C_3 C_4 L_1 R_3 + C_1 C_3 C_4 L_1 R_4 + C_3 C_4 L_1 L_4 g_m \right) + s^2 \left( C_1 C_3 L_1 + 2C_1 C_4 L_1 + 2C_3 C_4 L_1 R_3 g_m + C_3 C_4 L_1 R_4 g_m + C_3 C_4 L_4 \right) + s \left( 2C_3 C_4 R_3 + C_3 C_4 R_4 + C_3 L_1 g_m + 2C_4 L_1 g_m \right)}$$

**10.573  INVALID-ORDER-573** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_1 L_4 R_3 R_4 g_m s^3 + L_1 L_4 R_4 g_m s^2}{2C_1 C_3 C_4 L_1 L_4 R_3 R_4 s^5 + 2R_4 + s^4 \left( 2C_1 C_3 L_1 L_4 R_3 + C_1 C_3 L_1 L_4 R_4 + 2C_1 C_4 L_1 L_4 R_4 + 2C_3 C_4 L_1 L_4 R_3 R_4 g_m \right) + s^3 \left( 2C_1 C_3 L_1 R_3 R_4 + 2C_1 L_1 L_4 + 2C_3 C_4 L_4 R_3 R_4 + 2C_3 L_1 L_4 R_3 g_m + C_3 L_1 L_4 R_4 g_m + 2C_4 L_1 L_4 R_4 g_m \right) + s^2 \left( 2C_1 L_1 R_4 + 2C_3 L_1 R_3 R_4 g_m + 2C_3 L_4 R_3 + C_3 L_4 R_4 + \cdots \right)}$$

**10.574  INVALID-ORDER-574** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_1 L_4 R_3 R_4 g_m s^4 + L_1 R_4 g_m s + s^3 \left( C_3 L_1 L_4 R_3 g_m + C_4 L_1 L_4 R_4 g_m \right) + s^2 \left( C_3 L_1 R_3 R_4 g_m + L_1 L_4 g_m \right)}{s^5 \left( 2C_1 C_3 C_4 L_1 L_4 R_3 + C_1 C_3 C_4 L_1 L_4 R_4 \right) + s^4 \left( C_1 C_3 L_1 L_4 + 2C_1 C_4 L_1 L_4 + 2C_3 C_4 L_1 L_4 R_3 g_m + C_3 C_4 L_1 L_4 R_4 g_m \right) + s^3 \left( 2C_1 C_3 L_1 R_3 + C_1 C_3 L_1 R_4 + 2C_3 C_4 L_4 R_3 + C_3 C_4 L_4 R_4 + C_3 L_1 L_4 g_m + 2C_4 L_1 L_4 g_m \right) + s^2 \left( 2C_1 L_1 + 2C_3 L_1 R_3 g_m + C_3 L_1 R_4 g_m + C_3 L_4 + 2C_4 L_4 \right) + \cdots}$$

**10.575  INVALID-ORDER-575** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{R_4 \left( C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_1 L_4 R_3 R_4 g_m s^4 + C_3 L_1 R_3 R_4 g_m s^2 + C_4 L_1 L_4 R_4 g_m s^3 + L_1 R_4 g_m s}{s^5 \left( 2C_1 C_3 C_4 L_1 L_4 R_3 + C_1 C_3 C_4 L_1 L_4 R_4 \right) + s^4 \left( 2C_1 C_3 C_4 L_1 R_3 R_4 + 2C_1 C_4 L_1 L_4 + 2C_3 C_4 L_1 L_4 R_3 g_m + C_3 C_4 L_1 L_4 R_4 g_m \right) + s^3 \left( 2C_1 C_3 L_1 R_3 + C_1 C_3 L_1 R_4 + 2C_1 C_4 L_1 R_4 + 2C_3 C_4 L_1 R_3 R_4 g_m + 2C_3 C_4 L_4 R_3 + C_3 C_4 L_4 R_4 + 2C_4 L_1 L_4 g_m \right) + s^2 \left( 2C_1 L_1 + 2C_3 C_4 R_3 R_4 + \cdots \right)}$$

**10.576 INVALID-ORDER-576** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_1 L_3 R_4 g_m s^3 + L_1 R_4 g_m s}{2 C_1 C_3 L_1 L_3 s^4 + s^3 \left( C_1 C_3 L_1 R_4 + 2 C_3 L_1 L_3 g_m \right) + s^2 \left( 2 C_1 L_1 + C_3 L_1 R_4 g_m + 2 C_3 L_3 \right) + s \left( C_3 R_4 + 2 L_1 g_m \right) + 2}$$

**10.577 INVALID-ORDER-577** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_1 L_3 g_m s^2 + L_1 g_m}{2 C_1 C_3 C_4 L_1 L_3 s^4 + 2 C_3 C_4 L_1 L_3 g_m s^3 + C_3 + 2 C_4 + s^2 \left( C_1 C_3 L_1 + 2 C_1 C_4 L_1 + 2 C_3 C_4 L_3 \right) + s \left( C_3 L_1 g_m + 2 C_4 L_1 g_m \right)}$$

**10.578 INVALID-ORDER-578** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_1 L_3 R_4 g_m s^3 + L_1 R_4 g_m s}{2 C_1 C_3 C_4 L_1 L_3 R_4 s^5 + s^4 \left( 2 C_1 C_3 L_1 L_3 + 2 C_3 C_4 L_1 L_3 R_4 g_m \right) + s^3 \left( C_1 C_3 L_1 R_4 + 2 C_1 C_4 L_1 R_4 + 2 C_3 C_4 L_3 R_4 + 2 C_3 L_1 L_3 g_m \right) + s^2 \left( 2 C_1 L_1 + C_3 L_1 R_4 g_m + 2 C_3 L_3 + 2 C_4 L_1 R_4 g_m \right) + s \left( C_3 R_4 + 2 C_4 R_4 + 2 L_1 g_m \right) + 2}$$

**10.579 INVALID-ORDER-579** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 R_4 g_m s^3 + C_3 L_1 L_3 g_m s^2 + C_4 L_1 R_4 g_m s + L_1 g_m}{2 C_1 C_3 C_4 L_1 L_3 s^4 + C_3 + 2 C_4 + s^3 \left( C_1 C_3 C_4 L_1 R_4 + 2 C_3 C_4 L_1 L_3 g_m \right) + s^2 \left( C_1 C_3 L_1 + 2 C_1 C_4 L_1 + C_3 C_4 L_1 R_4 g_m + 2 C_3 C_4 L_3 \right) + s \left( C_3 C_4 R_4 + C_3 L_1 g_m + 2 C_4 L_1 g_m \right)}$$

**10.580 INVALID-ORDER-580** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 g_m s^4 + L_1 g_m + s^2 \left( C_3 L_1 L_3 g_m + C_4 L_1 L_4 g_m \right)}{C_3 + 2 C_4 + s^4 \left( 2 C_1 C_3 C_4 L_1 L_3 + C_1 C_3 C_4 L_1 L_4 \right) + s^3 \left( 2 C_3 C_4 L_1 L_3 g_m + C_3 C_4 L_1 L_4 g_m \right) + s^2 \left( C_1 C_3 L_1 + 2 C_1 C_4 L_1 + 2 C_3 C_4 L_3 + C_3 C_4 L_4 \right) + s \left( C_3 L_1 g_m + 2 C_4 L_1 g_m \right)}$$

**10.581 INVALID-ORDER-581** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_1 L_3 L_4 g_m s^4 + L_1 L_4 g_m s^2}{2 C_1 C_3 C_4 L_1 L_3 L_4 s^6 + 2 C_3 C_4 L_1 L_3 L_4 g_m s^5 + 2 L_1 g_m s + s^4 \left( 2 C_1 C_3 L_1 L_3 + C_1 C_3 L_1 L_4 + 2 C_1 C_4 L_1 L_4 + 2 C_3 C_4 L_3 L_4 \right) + s^3 \left( 2 C_3 L_1 L_3 g_m + C_3 L_1 L_4 g_m + 2 C_4 L_1 L_4 g_m \right) + s^2 \left( 2 C_1 L_1 + 2 C_3 L_3 + C_3 L_4 + 2 C_4 L_4 \right) + 2}$$

**10.582 INVALID-ORDER-582** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 g_m s^4 + C_3 C_4 L_1 L_3 R_4 g_m s^3 + C_4 L_1 R_4 g_m s + L_1 g_m + s^2 \left( C_3 L_1 L_3 g_m + C_4 L_1 L_4 g_m \right)}{C_3 + 2 C_4 + s^4 \left( 2 C_1 C_3 C_4 L_1 L_3 + C_1 C_3 C_4 L_1 L_4 \right) + s^3 \left( C_1 C_3 C_4 L_1 R_4 + 2 C_3 C_4 L_1 L_3 g_m + C_3 C_4 L_1 L_4 g_m \right) + s^2 \left( C_1 C_3 L_1 + 2 C_1 C_4 L_1 + C_3 C_4 L_1 R_4 g_m + 2 C_3 C_4 L_3 + C_3 C_4 L_4 \right) + s \left( C_3 C_4 R_4 + C_3 L_1 g_m + 2 C_4 L_1 g_m \right)}$$

**10.583 INVALID-ORDER-583** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_1 L_3 L_4 R_4 g_m s^4 + L_1 L_4 R_4 g_m s^2}{2 C_1 C_3 C_4 L_1 L_3 L_4 R_4 s^6 + 2 R_4 + s^5 \left( 2 C_1 C_3 L_1 L_3 L_4 + 2 C_3 C_4 L_1 L_3 L_4 R_4 g_m \right) + s^4 \left( 2 C_1 C_3 L_1 L_3 R_4 + C_1 C_3 L_1 L_4 R_4 + 2 C_1 C_4 L_1 L_4 R_4 + 2 C_3 C_4 L_3 L_4 R_4 + 2 C_3 L_1 L_3 L_4 g_m \right) + s^3 \left( 2 C_1 L_1 L_4 + 2 C_3 L_1 L_3 R_4 g_m + C_3 L_1 L_4 R_4 g_m + 2 C_3 L_3 L_4 + 2 C_4 L_1 L_4 R_4 g_m \right) + s^2 \left( 2 C_1 L_1 R_4 +}{}$$

**10.584 INVALID-ORDER-584** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 R_4 g_m s^5 + C_3 L_1 L_3 L_4 g_m s^4 + L_1 L_4 g_m s^2 + L_1 R_4 g_m s + s^3 \left( C_3 L_1 L_3 R_4 g_m + C_4 L_1 L_4 R_4 g_m \right)}{2 C_1 C_3 C_4 L_1 L_3 L_4 s^6 + s^5 \left( C_1 C_3 C_4 L_1 L_4 R_4 + 2 C_3 C_4 L_1 L_3 L_4 g_m \right) + s^4 \left( 2 C_1 C_3 L_1 L_3 + C_1 C_3 L_1 L_4 + 2 C_1 C_4 L_1 L_4 + C_3 C_4 L_1 L_4 R_4 g_m + 2 C_3 C_4 L_3 L_4 \right) + s^3 \left( C_1 C_3 L_1 R_4 + C_3 C_4 L_4 R_4 + 2 C_3 L_1 L_3 g_m + C_3 L_1 L_4 g_m + 2 C_4 L_1 L_4 g_m \right) + s^2 \left( 2 C_1 L_1 + C_3 L_1 R_4 g_m + 2 C_3 L_3 + C_3}{}$$

**10.585 INVALID-ORDER-585** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{R_4 \left( C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 R_4 g_m s^5 + L_1 R_4 g_m s + s^3 \left( C_3 L_1 L_3 R_4 g_m + C_4 L_1 L_4 R_4 g_m \right)}{2 C_1 C_3 C_4 L_1 L_3 L_4 s^6 + s^5 \left( 2 C_1 C_3 C_4 L_1 L_3 R_4 + C_1 C_3 C_4 L_1 L_4 R_4 + 2 C_3 C_4 L_1 L_3 L_4 g_m \right) + s^4 \left( 2 C_1 C_3 L_1 L_3 + 2 C_1 C_4 L_1 L_4 + 2 C_3 C_4 L_1 L_3 R_4 g_m + C_3 C_4 L_1 L_4 R_4 g_m + 2 C_3 C_4 L_3 L_4 \right) + s^3 \left( C_1 C_3 L_1 R_4 + 2 C_1 C_4 L_1 R_4 + 2 C_3 C_4 L_3 R_4 + C_3 C_4 L_4 R_4 + 2 C_3 L_1 L_3 g_m + 2 C_4 L_1 L_4 g_m}{}$$

**10.586** **INVALID-ORDER-586** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1 L_3 R_4 g_m s^2}{C_1 C_3 L_1 L_3 R_4 s^4 + R_4 + s^3 \left( 2C_1 L_1 L_3 + C_3 L_1 L_3 R_4 g_m \right) + s^2 \left( C_1 L_1 R_4 + C_3 L_3 R_4 + 2L_1 L_3 g_m \right) + s \left( L_1 R_4 g_m + 2L_3 \right)}$$

**10.587** **INVALID-ORDER-587** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1 L_3 g_m s^2}{L_1 g_m s + s^4 \left( C_1 C_3 L_1 L_3 + 2C_1 C_4 L_1 L_3 \right) + s^3 \left( C_3 L_1 L_3 g_m + 2C_4 L_1 L_3 g_m \right) + s^2 \left( C_1 L_1 + C_3 L_3 + 2C_4 L_3 \right) + 1}$$

**10.588** **INVALID-ORDER-588** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1 L_3 R_4 g_m s^2}{R_4 + s^4 \left( C_1 C_3 L_1 L_3 R_4 + 2C_1 C_4 L_1 L_3 R_4 \right) + s^3 \left( 2C_1 L_1 L_3 + C_3 L_1 L_3 R_4 g_m + 2C_4 L_1 L_3 R_4 g_m \right) + s^2 \left( C_1 L_1 R_4 + C_3 L_3 R_4 + 2C_4 L_3 R_4 + 2L_1 L_3 g_m \right) + s \left( L_1 R_4 g_m + 2L_3 \right)}$$

**10.589** **INVALID-ORDER-589** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_3 R_4 g_m s^3 + L_1 L_3 g_m s^2}{C_1 C_3 C_4 L_1 L_3 R_4 s^5 + s^4 \left( C_1 C_3 L_1 L_3 + 2C_1 C_4 L_1 L_3 + C_3 C_4 L_1 L_3 R_4 g_m \right) + s^3 \left( C_1 C_4 L_1 R_4 + C_3 C_4 L_3 R_4 + C_3 L_1 L_3 g_m + 2C_4 L_1 L_3 g_m \right) + s^2 \left( C_1 L_1 + C_3 L_3 + C_4 L_1 R_4 g_m + 2C_4 L_3 \right) + s \left( C_4 R_4 + L_1 g_m \right) + 1}$$

**10.590** **INVALID-ORDER-590** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_3 L_4 g_m s^4 + L_1 L_3 g_m s^2}{C_1 C_3 C_4 L_1 L_3 L_4 s^6 + C_3 C_4 L_1 L_3 L_4 g_m s^5 + L_1 g_m s + s^4 \left( C_1 C_3 L_1 L_3 + 2C_1 C_4 L_1 L_3 + C_1 C_4 L_1 L_4 + C_3 C_4 L_3 L_4 \right) + s^3 \left( C_3 L_1 L_3 g_m + 2C_4 L_1 L_3 g_m + C_4 L_1 L_4 g_m \right) + s^2 \left( C_1 L_1 + C_3 L_3 + 2C_4 L_3 + C_4 L_4 \right) + 1}$$

**10.591** **INVALID-ORDER-591** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1 L_3 L_4 g_m s^2}{2L_3 + L_4 + s^4 \left( C_1 C_3 L_1 L_3 L_4 + 2C_1 C_4 L_1 L_3 L_4 \right) + s^3 \left( C_3 L_1 L_3 L_4 g_m + 2C_4 L_1 L_3 L_4 g_m \right) + s^2 \left( 2C_1 L_1 L_3 + C_1 L_1 L_4 + C_3 L_3 L_4 + 2C_4 L_3 L_4 \right) + s \left( 2L_1 L_3 g_m + L_1 L_4 g_m \right)}$$

**10.592** **INVALID-ORDER-592** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_3 L_4 g_m s^4 + C_4 L_1 L_3 R_4 g_m s^3 + L_1 L_3 g_m s^2}{C_1 C_3 C_4 L_1 L_3 L_4 s^6 + s^5 \left( C_1 C_3 C_4 L_1 L_3 R_4 + C_3 C_4 L_1 L_3 L_4 g_m \right) + s^4 \left( C_1 C_3 L_1 L_3 + 2C_1 C_4 L_1 L_3 + C_1 C_4 L_1 L_4 + C_3 C_4 L_1 L_3 R_4 g_m + C_3 C_4 L_3 L_4 \right) + s^3 \left( C_1 C_4 L_1 R_4 + C_3 C_4 L_3 R_4 + C_3 L_1 L_3 g_m + 2C_4 L_1 L_3 g_m + C_4 L_1 L_4 g_m \right) + s^2 \left( C_1 L_1 + C_3 L_3 + C_4 L_1 R_4 g_m + 2C_4 L_3 + C_4 \right)}$$

**10.593** **INVALID-ORDER-593** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1 L_3 L_4 R_4 g_m s^2}{2L_3 R_4 + L_4 R_4 + s^4 \left( C_1 C_3 L_1 L_3 L_4 R_4 + 2C_1 C_4 L_1 L_3 L_4 R_4 \right) + s^3 \left( 2C_1 L_1 L_3 L_4 + C_3 L_1 L_3 L_4 R_4 g_m + 2C_4 L_1 L_3 L_4 R_4 g_m \right) + s^2 \left( 2C_1 L_1 L_3 R_4 + C_1 L_1 L_4 R_4 + C_3 L_3 L_4 R_4 + 2C_4 L_3 L_4 R_4 + 2L_1 L_3 L_4 g_m \right) + s \left( 2L_1 L_3 R_4 g_m + L_1 L_4 R_4 g_m + 2L_3 L_4 \right)}$$

**10.594** **INVALID-ORDER-594** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_3 L_4 R_4 g_m s^4 + L_1 L_3 L_4 g_m s^3 + L_1 L_3 R_4 g_m s^2}{C_1 C_3 C_4 L_1 L_3 L_4 R_4 s^6 + R_4 + s^5 \left( C_1 C_3 L_1 L_3 L_4 + 2C_1 C_4 L_1 L_3 L_4 + C_3 C_4 L_1 L_3 L_4 R_4 g_m \right) + s^4 \left( C_1 C_3 L_1 L_3 R_4 + C_1 C_4 L_1 L_4 R_4 + C_3 C_4 L_3 L_4 R_4 + C_3 L_1 L_3 L_4 g_m + 2C_4 L_1 L_3 L_4 g_m \right) + s^3 \left( 2C_1 L_1 L_3 + C_1 L_1 L_4 + C_3 L_1 L_3 R_4 g_m + C_3 L_3 L_4 + C_4 L_1 L_4 R_4 g_m + 2C_4 L_3 L_4 \right) + s^2}$$

**10.595** **INVALID-ORDER-595** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{R_4 \left( C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_3 L_4 R_4 g_m s^4 + L_1 L_3 R_4 g_m s^2}{C_1 C_3 C_4 L_1 L_3 L_4 R_4 s^6 + R_4 + s^5 \left( 2C_1 C_4 L_1 L_3 L_4 + C_3 C_4 L_1 L_3 L_4 R_4 g_m \right) + s^4 \left( C_1 C_3 L_1 L_3 R_4 + 2C_1 C_4 L_1 L_3 R_4 + C_1 C_4 L_1 L_4 R_4 + C_3 C_4 L_3 L_4 R_4 + 2C_4 L_1 L_3 L_4 g_m \right) + s^3 \left( 2C_1 L_1 L_3 + C_3 L_1 L_3 R_4 g_m + 2C_4 L_1 L_3 R_4 g_m + C_4 L_1 L_4 R_4 g_m + 2C_4 L_3 L_4 \right) + s^2 \left( C_1 L_1 R_4 + C_3 L_3 R \right)}$$

**10.596 INVALID-ORDER-596** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1},\ \infty,\ L_3 s + R_3 + \frac{1}{C_3 s},\ R_4,\ \infty,\ \infty \right)$

$$H(s) = \frac{C_3 L_1 L_3 R_4 g_m s^3 + C_3 L_1 R_3 R_4 g_m s^2 + L_1 R_4 g_m s}{2C_1 C_3 L_1 L_3 s^4 + s^3 \left(2C_1 C_3 L_1 R_3 + C_1 C_3 L_1 R_4 + 2C_3 L_1 L_3 g_m\right) + s^2 \left(2C_1 L_1 + 2C_3 L_1 R_3 g_m + C_3 L_1 R_4 g_m + 2C_3 L_3\right) + s \left(2C_3 R_3 + C_3 R_4 + 2L_1 g_m\right) + 2}$$

**10.597 INVALID-ORDER-597** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1},\ \infty,\ L_3 s + R_3 + \frac{1}{C_3 s},\ \frac{1}{C_4 s},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_3 L_1 L_3 g_m s^2 + C_3 L_1 R_3 g_m s + L_1 g_m}{2C_1 C_3 C_4 L_1 L_3 s^4 + C_3 + 2C_4 + s^3 \left(2C_1 C_3 C_4 L_1 R_3 + 2C_3 C_4 L_1 L_3 g_m\right) + s^2 \left(C_1 C_3 L_1 + 2C_1 C_4 L_1 + 2C_3 C_4 L_1 R_3 g_m + 2C_3 C_4 L_3\right) + s \left(2C_3 C_4 R_3 + C_3 L_1 g_m + 2C_4 L_1 g_m\right)}$$

**10.598 INVALID-ORDER-598** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1},\ \infty,\ L_3 s + R_3 + \frac{1}{C_3 s},\ \frac{R_4}{C_4 R_4 s + 1},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_3 L_1 L_3 R_4 g_m s^3 + C_3 L_1 R_3 R_4 g_m s^2 + L_1 R_4 g_m s}{2C_1 C_3 C_4 L_1 L_3 R_4 s^5 + s^4 \left(2C_1 C_3 C_4 L_1 R_3 R_4 + 2C_1 C_3 L_1 L_3 + 2C_3 C_4 L_1 L_3 R_4 g_m\right) + s^3 \left(2C_1 C_3 L_1 R_3 + C_1 C_3 L_1 R_4 + 2C_1 C_4 L_1 R_4 + 2C_3 C_4 L_1 R_3 R_4 g_m + 2C_3 C_4 L_3 R_4 + 2C_3 L_1 L_3 g_m\right) + s^2 \left(2C_1 L_1 + 2C_3 C_4 R_3 R_4 + 2C_3 L_1 R_3 g_m + C_3 L_1 R_4 g_m + 2C_3 L_3 + 2C_4 L_1 R_4 g_m\right) + \cdots}$$

**10.599 INVALID-ORDER-599** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1},\ \infty,\ L_3 s + R_3 + \frac{1}{C_3 s},\ R_4 + \frac{1}{C_4 s},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 R_4 g_m s^3 + L_1 g_m + s^2 \left(C_3 C_4 L_1 R_3 R_4 g_m + C_3 L_1 L_3 g_m\right) + s \left(C_3 L_1 R_3 g_m + C_4 L_1 R_4 g_m\right)}{2C_1 C_3 C_4 L_1 L_3 s^4 + C_3 + 2C_4 + s^3 \left(2C_1 C_3 C_4 L_1 R_3 + C_1 C_3 C_4 L_1 R_4 + 2C_3 C_4 L_1 L_3 g_m\right) + s^2 \left(C_1 C_3 L_1 + 2C_1 C_4 L_1 + 2C_3 C_4 L_1 R_3 g_m + C_3 C_4 L_1 R_4 g_m + 2C_3 C_4 L_3\right) + s \left(2C_3 C_4 R_3 + C_3 C_4 R_4 + C_3 L_1 g_m + 2C_4 L_1 g_m\right)}$$

**10.600 INVALID-ORDER-600** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1},\ \infty,\ L_3 s + R_3 + \frac{1}{C_3 s},\ L_4 s + \frac{1}{C_4 s},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 g_m s^4 + C_3 C_4 L_1 L_4 R_3 g_m s^3 + C_3 L_1 R_3 g_m s + L_1 g_m + s^2 \left(C_3 L_1 L_3 g_m + C_4 L_1 L_4 g_m\right)}{C_3 + 2C_4 + s^4 \left(2C_1 C_3 C_4 L_1 L_3 + C_1 C_3 C_4 L_1 L_4\right) + s^3 \left(2C_1 C_3 C_4 L_1 R_3 + 2C_3 C_4 L_1 L_3 g_m + C_3 C_4 L_1 L_4 g_m\right) + s^2 \left(C_1 C_3 L_1 + 2C_1 C_4 L_1 + 2C_3 C_4 L_1 R_3 g_m + 2C_3 C_4 L_3 + C_3 C_4 L_4\right) + s \left(2C_3 C_4 R_3 + C_3 L_1 g_m + 2C_4 L_1 g_m\right)}$$

**10.601 INVALID-ORDER-601** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1},\ \infty,\ L_3 s + R_3 + \frac{1}{C_3 s},\ \frac{L_4 s}{C_4 L_4 s^2 + 1},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_3 L_1 L_3 L_4 g_m s^4 + C_3 L_1 L_4 R_3 g_m s^3 + L_1 L_4 g_m s^2}{2C_1 C_3 C_4 L_1 L_3 L_4 s^6 + s^5 \left(2C_1 C_3 C_4 L_1 L_4 R_3 + 2C_3 C_4 L_1 L_3 L_4 g_m\right) + s^4 \left(2C_1 C_3 L_1 L_3 + C_1 C_3 L_1 L_4 + 2C_1 C_4 L_1 L_4 + 2C_3 C_4 L_1 L_4 R_3 g_m + 2C_3 C_4 L_3 L_4\right) + s^3 \left(2C_1 C_3 L_1 R_3 + 2C_3 C_4 L_4 R_3 + 2C_3 L_1 L_3 g_m + C_3 L_1 L_4 g_m + 2C_4 L_1 L_4 g_m\right) + s^2 \left(2C_1 L_1 + 2C_3 L_1 R_3 g_m + 2C_3 L_3 \cdots\right)}$$

**10.602 INVALID-ORDER-602** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1},\ \infty,\ L_3 s + R_3 + \frac{1}{C_3 s},\ L_4 s + R_4 + \frac{1}{C_4 s},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 g_m s^4 + L_1 g_m + s^3 \left(C_3 C_4 L_1 L_3 R_4 g_m + C_3 C_4 L_1 L_4 R_3 g_m\right) + s^2 \left(C_3 C_4 L_1 R_3 R_4 g_m + C_3 L_1 L_3 g_m + C_4 L_1 L_4 g_m\right) + s \left(C_3 L_1 R_3 g_m + C_4 L_1 R_4 g_m\right)}{C_3 + 2C_4 + s^4 \left(2C_1 C_3 C_4 L_1 L_3 + C_1 C_3 C_4 L_1 L_4\right) + s^3 \left(2C_1 C_3 C_4 L_1 R_3 + C_1 C_3 C_4 L_1 R_4 + 2C_3 C_4 L_1 L_3 g_m + C_3 C_4 L_1 L_4 g_m\right) + s^2 \left(C_1 C_3 L_1 + 2C_1 C_4 L_1 + 2C_3 C_4 L_1 R_3 g_m + C_3 C_4 L_1 R_4 g_m + 2C_3 C_4 L_3 + C_3 C_4 L_4\right) + s \left(2C_3 C_4 R_3 + C_3 C_4 R_4 + C_3 L_1 g_m + 2C_4 L_1 g_m\right)}$$

**10.603 INVALID-ORDER-603** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1},\ \infty,\ L_3 s + R_3 + \frac{1}{C_3 s},\ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_3 L_1 L_3 L_4 R_4 g_m s^4 + C_3 L_1 L_4 R_3 R_4 g_m s^3 + \cdots}{2C_1 C_3 C_4 L_1 L_3 L_4 R_4 s^6 + 2R_4 + s^5 \left(2C_1 C_3 C_4 L_1 L_4 R_3 R_4 + 2C_1 C_3 L_1 L_3 L_4 + 2C_3 C_4 L_1 L_3 L_4 R_4 g_m\right) + s^4 \left(2C_1 C_3 L_1 L_3 R_4 + 2C_1 C_3 L_1 L_4 R_3 + C_1 C_3 L_1 L_4 R_4 + 2C_1 C_4 L_1 L_4 R_4 + 2C_3 C_4 L_1 L_4 R_3 R_4 g_m + 2C_3 C_4 L_3 L_4 R_4 + 2C_3 L_1 L_3 L_4 g_m\right) + s^3 \left(2C_1 C_3 L_1 R_3 R_4 + 2C_1 L_1 L_4 \cdots\right)}$$

**10.604 INVALID-ORDER-604** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1},\ \infty,\ L_3 s + R_3 + \frac{1}{C_3 s},\ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 R_4 g_m s^5 + L_1 R_4 g_m s + s^4 \left(C_3 C_4 L_1 L_4 R_3 R_4 g_m + C_3 L_1 L_3 L_4 g_m\right) + s^3 \left(C_3 L_1 L_3 R_4 g_m + C_3 L_1 L_4 R_3 g_m + C_4 L_1 L_4 R_4 g_m\right) + s^2 \left(C_3 L_1 R_3 \cdots\right)}{2C_1 C_3 C_4 L_1 L_3 L_4 s^6 + s^5 \left(2C_1 C_3 C_4 L_1 L_4 R_3 + C_1 C_3 C_4 L_1 L_4 R_4 + 2C_3 C_4 L_1 L_3 L_4 g_m\right) + s^4 \left(2C_1 C_3 L_1 L_3 + C_1 C_3 L_1 L_4 + 2C_1 C_4 L_1 L_4 + 2C_3 C_4 L_1 L_4 R_3 g_m + C_3 C_4 L_1 L_4 R_4 g_m + 2C_3 C_4 L_3 L_4\right) + s^3 \left(2C_1 C_3 L_1 R_3 + C_1 C_3 L_1 R_4 + 2C_3 C_4 L_4 R_3 + C_3 C_4 L_4 R_4 + 2C_3 L_1 L_3 g_m + \cdots\right)}$$

**10.605 INVALID-ORDER-605** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1},\ \infty,\ L_3 s + R_3 + \frac{1}{C_3 s},\ \frac{R_4 \left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 R_4 g_m s^5 + C_3 C_4 L_1 L_4 R_3 R_4 g_m s^4 + C_3 L_1 R_3 R_4 g_m s^2 + \cdots}{2C_1 C_3 C_4 L_1 L_3 L_4 s^6 + s^5 \left(2C_1 C_3 C_4 L_1 L_3 R_4 + 2C_1 C_3 C_4 L_1 L_4 R_3 + C_1 C_3 C_4 L_1 L_4 R_4 + 2C_3 C_4 L_1 L_3 L_4 g_m\right) + s^4 \left(2C_1 C_3 C_4 L_1 R_3 R_4 + 2C_1 C_3 L_1 L_3 + 2C_1 C_4 L_1 L_4 + 2C_3 C_4 L_1 L_3 R_4 g_m + 2C_3 C_4 L_1 L_4 R_3 g_m + C_3 C_4 L_1 L_4 R_4 g_m + 2C_3 C_4 L_3 L_4\right) + s^3 \left(2C_1 C_3 L_1 R_3 + C_1 C_3 L_1 \cdots\right)}$$

**10.606  INVALID-ORDER-606** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1},\ \infty,\ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3},\ R_4,\ \infty,\ \infty \right)$

$$H(s) = \frac{L_1 L_3 R_3 R_4 g_m s^2}{C_1 C_3 L_1 L_3 R_3 R_4 s^4 + R_3 R_4 + s^3 \left( 2 C_1 L_1 L_3 R_3 + C_1 L_1 L_3 R_4 + C_3 L_1 L_3 R_3 R_4 g_m \right) + s^2 \left( C_1 L_1 R_3 R_4 + C_3 L_3 R_3 R_4 + 2 L_1 L_3 R_3 g_m + L_1 L_3 R_4 g_m \right) + s \left( L_1 R_3 R_4 g_m + 2 L_3 R_3 + L_3 R_4 \right)}$$

**10.607  INVALID-ORDER-607** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1},\ \infty,\ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3},\ \frac{1}{C_4 s},\ \infty,\ \infty \right)$

$$H(s) = \frac{L_1 L_3 R_3 g_m s^2}{R_3 + s^4 \left( C_1 C_3 L_1 L_3 R_3 + 2 C_1 C_4 L_1 L_3 R_3 \right) + s^3 \left( C_1 L_1 L_3 + C_3 L_1 L_3 R_3 g_m + 2 C_4 L_1 L_3 R_3 g_m \right) + s^2 \left( C_1 L_1 R_3 + C_3 L_3 R_3 + 2 C_4 L_3 R_3 + L_1 L_3 g_m \right) + s \left( L_1 R_3 g_m + L_3 \right)}$$

**10.608  INVALID-ORDER-608** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1},\ \infty,\ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3},\ \frac{R_4}{C_4 R_4 s + 1},\ \infty,\ \infty \right)$

$$H(s) = \frac{L_1 L_3 R_3 R_4 g_m s^2}{R_3 R_4 + s^4 \left( C_1 C_3 L_1 L_3 R_3 R_4 + 2 C_1 C_4 L_1 L_3 R_3 R_4 \right) + s^3 \left( 2 C_1 L_1 L_3 R_3 + C_1 L_1 L_3 R_4 + C_3 L_1 L_3 R_3 R_4 g_m + 2 C_4 L_1 L_3 R_3 R_4 g_m \right) + s^2 \left( C_1 L_1 R_3 R_4 + C_3 L_3 R_3 R_4 + 2 C_4 L_3 R_3 R_4 + 2 L_1 L_3 R_3 g_m + L_1 L_3 R_4 g_m \right) + s \left( L_1 R_3 R_4 g_m + 2 L_3 R_3 + L_3 R_4 \right)}$$

**10.609  INVALID-ORDER-609** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1},\ \infty,\ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3},\ R_4 + \frac{1}{C_4 s},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_3 R_3 R_4 g_m s^3 + L_1 L_3 R_3 g_m s^2}{C_1 C_3 C_4 L_1 L_3 R_3 R_4 s^5 + R_3 + s^4 \left( C_1 C_3 L_1 L_3 R_3 + 2 C_1 C_4 L_1 L_3 R_3 + C_1 C_4 L_1 L_3 R_4 + C_3 C_4 L_1 L_3 R_3 R_4 g_m \right) + s^3 \left( C_1 C_4 L_1 R_3 R_4 + C_1 L_1 L_3 + C_3 C_4 L_3 R_3 R_4 + C_3 L_1 L_3 R_3 g_m + 2 C_4 L_1 L_3 R_3 g_m + C_4 L_1 L_3 R_4 g_m \right) + s^2 \left( C_1 L_1 R_3 + C_3 L_3 R_3 + C_4 L_1 R_3 R_4 g_m + 2 C_4 L_3 R_3 + C_2 \cdots \right)}$$

**10.610  INVALID-ORDER-610** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1},\ \infty,\ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3},\ L_4 s + \frac{1}{C_4 s},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_3 L_4 R_3 g_m s^4 + L_1 L_3 R_3 g_m s^2}{C_1 C_3 C_4 L_1 L_3 L_4 R_3 s^6 + R_3 + s^5 \left( C_1 C_4 L_1 L_3 L_4 + C_3 C_4 L_1 L_3 L_4 R_3 g_m \right) + s^4 \left( C_1 C_3 L_1 L_3 R_3 + 2 C_1 C_4 L_1 L_3 R_3 + C_1 C_4 L_1 L_4 R_3 + C_3 C_4 L_3 L_4 R_3 + C_4 L_1 L_3 L_4 g_m \right) + s^3 \left( C_1 L_1 L_3 + C_3 L_1 L_3 R_3 g_m + 2 C_4 L_1 L_3 R_3 g_m + C_4 L_1 L_4 R_3 g_m + C_4 L_3 L_4 \right) + s^2 \left( C_1 L_1 R_3 + C_3 L_3 R_3 + 2 \cdots \right)}$$

**10.611  INVALID-ORDER-611** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1},\ \infty,\ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3},\ \frac{L_4 s}{C_4 L_4 s^2 + 1},\ \infty,\ \infty \right)$

$$H(s) = \frac{L_1 L_3 L_4 R_3 g_m s^2}{2 L_3 R_3 + L_4 R_3 + s^4 \left( C_1 C_3 L_1 L_3 L_4 R_3 + 2 C_1 C_4 L_1 L_3 L_4 R_3 \right) + s^3 \left( C_1 L_1 L_3 L_4 + C_3 L_1 L_3 L_4 R_3 g_m + 2 C_4 L_1 L_3 L_4 R_3 g_m \right) + s^2 \left( 2 C_1 L_1 L_3 R_3 + C_1 L_1 L_4 R_3 + C_3 L_3 L_4 R_3 + 2 C_4 L_3 L_4 R_3 + L_1 L_3 L_4 g_m \right) + s \left( 2 L_1 L_3 R_3 g_m + L_1 L_4 R_3 g_m + L_3 L_4 \right)}$$

**10.612  INVALID-ORDER-612** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1},\ \infty,\ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3},\ L_4 s + R_4 + \frac{1}{C_4 s},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_3 L_4 R_3 g_m s^4 + C_4 L_1 L_3 R_3 R_4 g_m s^3 + L_1 L_3 R_3 g_m s^2}{C_1 C_3 C_4 L_1 L_3 L_4 R_3 s^6 + R_3 + s^5 \left( C_1 C_3 C_4 L_1 L_3 R_3 R_4 + C_1 C_4 L_1 L_3 L_4 + C_3 C_4 L_1 L_3 L_4 R_3 g_m \right) + s^4 \left( C_1 C_3 L_1 L_3 R_3 + 2 C_1 C_4 L_1 L_3 R_3 + C_1 C_4 L_1 L_3 R_4 + C_1 C_4 L_1 L_4 R_3 + C_3 C_4 L_1 L_3 R_3 R_4 g_m + C_3 C_4 L_3 L_4 R_3 + C_4 L_1 L_3 L_4 g_m \right) + s^3 \left( C_1 C_4 L_1 R_3 R_4 + C_1 L_1 L_3 + C_3 C_4 L_3 R_3 R_4 \cdots \right)}$$

**10.613  INVALID-ORDER-613** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1},\ \infty,\ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3},\ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4},\ \infty,\ \infty \right)$

$$H(s) = \frac{L_1 L_3 L_4 R_3 R_4 g_m s^2}{2 L_3 R_3 R_4 + L_4 R_3 R_4 + s^4 \left( C_1 C_3 L_1 L_3 L_4 R_3 R_4 + 2 C_1 C_4 L_1 L_3 L_4 R_3 R_4 \right) + s^3 \left( 2 C_1 L_1 L_3 L_4 R_3 + C_1 L_1 L_3 L_4 R_4 + C_3 L_1 L_3 L_4 R_3 R_4 g_m + 2 C_4 L_1 L_3 L_4 R_3 R_4 g_m \right) + s^2 \left( 2 C_1 L_1 L_3 R_3 R_4 + C_1 L_1 L_4 R_3 R_4 + C_3 L_3 L_4 R_3 R_4 + 2 C_4 L_3 L_4 R_3 R_4 + 2 L_1 L_3 L_4 R_3 g_m + L_1 L_3 L_4 R_4 g_m \right) + \cdots}$$

**10.614  INVALID-ORDER-614** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1},\ \infty,\ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3},\ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_3 L_4 R_3 R_4 g_m s^4 + \cdots}{C_1 C_3 C_4 L_1 L_3 L_4 R_3 R_4 s^6 + R_3 R_4 + s^5 \left( C_1 C_3 L_1 L_3 L_4 R_3 + 2 C_1 C_4 L_1 L_3 L_4 R_3 + C_1 C_4 L_1 L_3 L_4 R_4 + C_3 C_4 L_1 L_3 L_4 R_3 R_4 g_m \right) + s^4 \left( C_1 C_3 L_1 L_3 R_3 R_4 + C_1 C_4 L_1 L_4 R_3 R_4 + C_1 L_1 L_3 L_4 + C_3 C_4 L_3 L_4 R_3 R_4 + C_3 L_1 L_3 L_4 R_3 g_m + 2 C_4 L_1 L_3 L_4 R_3 g_m + C_4 L_1 L_3 L_4 R_4 g_m \right) + s^3 \left( 2 C \cdots \right)}$$

**10.615  INVALID-ORDER-615** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1},\ \infty,\ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3},\ \frac{R_4 \left( C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_3 L_4 R_3 R_4 g_m s^4 + L_1 L_3 R_3 R_4 g_m s^2}{C_1 C_3 C_4 L_1 L_3 L_4 R_3 R_4 s^6 + R_3 R_4 + s^5 \left( 2 C_1 C_4 L_1 L_3 L_4 R_3 + C_1 C_4 L_1 L_3 L_4 R_4 + C_3 C_4 L_1 L_3 L_4 R_3 R_4 g_m \right) + s^4 \left( C_1 C_3 L_1 L_3 R_3 R_4 + 2 C_1 C_4 L_1 L_3 R_3 R_4 + C_1 C_4 L_1 L_4 R_3 R_4 + C_3 C_4 L_3 L_4 R_3 R_4 + 2 C_4 L_1 L_3 L_4 R_3 g_m + C_4 L_1 L_3 L_4 R_4 g_m \right) + s^3 \left( 2 C_1 L_1 L_3 R_3 + C_1 L_1 L_3 R_4 + C_3 L_1 \cdots \right)}$$

**10.616   INVALID-ORDER-616** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_1 L_3 R_3 R_4 g_m s^3 + L_1 L_3 R_4 g_m s^2 + L_1 R_3 R_4 g_m s}{2R_3 + R_4 + s^4 \left( 2C_1 C_3 L_1 L_3 R_3 + C_1 C_3 L_1 L_3 R_4 \right) + s^3 \left( 2C_1 L_1 L_3 + 2C_3 L_1 L_3 R_3 g_m + C_3 L_1 L_3 R_4 g_m \right) + s^2 \left( 2C_1 L_1 R_3 + C_1 L_1 R_4 + 2C_3 L_3 R_3 + C_3 L_3 R_4 + 2L_1 L_3 g_m \right) + s \left( 2L_1 R_3 g_m + L_1 R_4 g_m + 2L_3 \right)}$$

**10.617   INVALID-ORDER-617** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_1 L_3 R_3 g_m s^3 + L_1 L_3 g_m s^2 + L_1 R_3 g_m s}{2C_1 C_3 C_4 L_1 L_3 R_3 s^5 + s^4 \left( C_1 C_3 L_1 L_3 + 2C_1 C_4 L_1 L_3 + 2C_3 C_4 L_1 L_3 R_3 g_m \right) + s^3 \left( 2C_1 C_4 L_1 R_3 + 2C_3 C_4 L_3 R_3 + C_3 L_1 L_3 g_m + 2C_4 L_1 L_3 g_m \right) + s^2 \left( C_1 L_1 + C_3 L_3 + 2C_4 L_1 R_3 g_m + 2C_4 L_3 \right) + s \left( 2C_4 R_3 + L_1 g_m \right) + 1}$$

**10.618   INVALID-ORDER-618** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_1 L_3 R_3 R_4 g_m s^3 + L_1 L_3 R_4 g_m s^2 + L_1 R_3 R_4 g_m s}{2C_1 C_3 C_4 L_1 L_3 R_3 R_4 s^5 + 2R_3 + R_4 + s^4 \left( 2C_1 C_3 L_1 L_3 R_3 + C_1 C_3 L_1 L_3 R_4 + 2C_1 C_4 L_1 L_3 R_4 + 2C_3 C_4 L_1 L_3 R_3 R_4 g_m \right) + s^3 \left( 2C_1 C_4 L_1 R_3 R_4 + 2C_1 L_1 L_3 + 2C_3 C_4 L_3 R_3 R_4 + 2C_3 L_1 L_3 R_3 g_m + C_3 L_1 L_3 R_4 g_m + 2C_4 L_1 L_3 R_4 g_m \right) + s^2 \left( 2C_1 L_1 R_3 + C_1 L_1 R_4 + 2C_3 L_3 R_3 + C_3 \cdots \right)}$$

**10.619   INVALID-ORDER-619** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 R_3 R_4 g_m s^4 + L_1 R_3 g_m s + s^3 \left( C_3 L_1 L_3 R_3 g_m + C_4 L_1 L_3 R_4 g_m \right) + s^2 \left( C_4 L_1 R_3 R_4 g_m + L_1 L_3 g_m \right)}{s^5 \left( 2C_1 C_3 C_4 L_1 L_3 R_3 + C_1 C_3 C_4 L_1 L_3 R_4 \right) + s^4 \left( C_1 C_3 L_1 L_3 + 2C_1 C_4 L_1 L_3 + 2C_3 C_4 L_1 L_3 R_3 g_m + C_3 C_4 L_1 L_3 R_4 g_m \right) + s^3 \left( 2C_1 C_4 L_1 R_3 + C_1 C_4 L_1 R_4 + 2C_3 C_4 L_3 R_3 + C_3 C_4 L_3 R_4 + C_3 L_1 L_3 g_m + 2C_4 L_1 L_3 g_m \right) + s^2 \left( C_1 L_1 + C_3 L_3 + 2C_4 L_1 R_3 g_m + C_4 L_1 R_4 g_m + 2C_4 L_3 \right) + \cdots}$$

**10.620   INVALID-ORDER-620** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 R_3 g_m s^5 + C_4 L_1 L_3 L_4 g_m s^4 + L_1 L_3 g_m s^2 + L_1 R_3 g_m s + s^3 \left( C_3 L_1 L_3 R_3 g_m + C_4 L_1 L_4 R_3 g_m \right)}{C_1 C_3 C_4 L_1 L_3 L_4 s^6 + s^5 \left( 2C_1 C_3 C_4 L_1 L_3 R_3 + C_3 C_4 L_1 L_3 L_4 g_m \right) + s^4 \left( C_1 C_3 L_1 L_3 + 2C_1 C_4 L_1 L_3 + C_1 C_4 L_1 L_4 + 2C_3 C_4 L_1 L_3 R_3 g_m + C_3 C_4 L_3 L_4 \right) + s^3 \left( 2C_1 C_4 L_1 R_3 + 2C_3 C_4 L_3 R_3 + C_3 L_1 L_3 g_m + 2C_4 L_1 L_3 g_m + C_4 L_1 L_4 g_m \right) + s^2 \left( C_1 L_1 + C_3 L_3 + 2C_4 L_1 R_3 g_m + 2C_4 L_3 \cdots \right)}$$

**10.621   INVALID-ORDER-621** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_1 L_3 L_4 R_3 g_m s^4 + L_1 L_3 L_4 g_m s^3 + L_1 L_4 R_3 g_m s^2}{2C_1 C_3 C_4 L_1 L_3 L_4 R_3 s^6 + 2R_3 + s^5 \left( C_1 C_3 L_1 L_3 L_4 + 2C_1 C_4 L_1 L_3 L_4 + 2C_3 C_4 L_1 L_3 L_4 R_3 g_m \right) + s^4 \left( 2C_1 C_3 L_1 L_3 R_3 + 2C_1 C_4 L_1 L_4 R_3 + 2C_3 C_4 L_3 L_4 R_3 + C_3 L_1 L_3 L_4 g_m + 2C_4 L_1 L_3 L_4 g_m \right) + s^3 \left( 2C_1 L_1 L_3 + C_1 L_1 L_4 + 2C_3 L_1 L_3 R_3 g_m + C_3 L_3 L_4 + 2C_4 L_1 L_4 R_3 g_m + 2C_4 L_3 \cdots \right)}$$

**10.622   INVALID-ORDER-622** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 R_3 g_m s^5 + L_1 R_3 g_m s + s^4 \left( C_3 C_4 L_1 L_3 R_3 R_4 g_m + C_4 L_1 L_3 L_4 g_m \right) + s^3 \left( C_3 L_1 L_3 R_3 g_m + C_4 L_1 L_3 R_4 g_m + C_4 L_1 L_4 R_3 g_m \right) + s^2 \left( C_4 L_1 R_3 R_4 g_m \cdots \right)}{C_1 C_3 C_4 L_1 L_3 L_4 s^6 + s^5 \left( 2C_1 C_3 C_4 L_1 L_3 R_3 + C_1 C_3 C_4 L_1 L_3 R_4 + C_3 C_4 L_1 L_3 L_4 g_m \right) + s^4 \left( C_1 C_3 L_1 L_3 + 2C_1 C_4 L_1 L_3 + C_1 C_4 L_1 L_4 + 2C_3 C_4 L_1 L_3 R_3 g_m + C_3 C_4 L_1 L_3 R_4 g_m + C_3 C_4 L_3 L_4 \right) + s^3 \left( 2C_1 C_4 L_1 R_3 + C_1 C_4 L_1 R_4 + 2C_3 C_4 L_3 R_3 + C_3 C_4 L_3 R_4 + C_3 L_1 L_3 g_m + 2C_4 \cdots \right)}$$

**10.623   INVALID-ORDER-623** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_1 L_3 L_4 R_3 R_4 g_m s^4 + \cdots}{2C_1 C_3 C_4 L_1 L_3 L_4 R_3 R_4 s^6 + 2R_3 R_4 + s^5 \left( 2C_1 C_3 L_1 L_3 L_4 R_3 + C_1 C_3 L_1 L_3 L_4 R_4 + 2C_1 C_4 L_1 L_3 L_4 R_4 + 2C_3 C_4 L_1 L_3 L_4 R_3 R_4 g_m \right) + s^4 \left( 2C_1 C_3 L_1 L_3 R_3 R_4 + 2C_1 C_4 L_1 L_4 R_3 R_4 + 2C_1 L_1 L_3 L_4 + 2C_3 C_4 L_3 L_4 R_3 R_4 + 2C_3 L_1 L_3 L_4 R_3 g_m + C_3 L_1 L_3 L_4 R_4 g_m + 2C_4 L_1 L_3 L_4 R_4 g_m \cdots \right)}$$

**10.624   INVALID-ORDER-624** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 R_3 R_4 g_m s^5 + L_1 R_3 R_4 g_m s + s^4 \left( C_3 L_1 L_3 L_4 R_3 g_m + C_4 L_1 L_3 L_4 R_4 g_m \cdots \right)}{2R_3 + R_4 + s^6 \left( 2C_1 C_3 C_4 L_1 L_3 L_4 R_3 + C_1 C_3 C_4 L_1 L_3 L_4 R_4 \right) + s^5 \left( C_1 C_3 L_1 L_3 L_4 + 2C_1 C_4 L_1 L_3 L_4 + 2C_3 C_4 L_1 L_3 L_4 R_3 g_m + C_3 C_4 L_1 L_3 L_4 R_4 g_m \right) + s^4 \left( 2C_1 C_3 L_1 L_3 R_3 + C_1 C_3 L_1 L_3 R_4 + 2C_1 C_4 L_1 L_4 R_3 + C_1 C_4 L_1 L_4 R_4 + 2C_3 C_4 L_3 L_4 R_3 + C_3 C_4 L_3 L_4 R_4 + C_3 L_1 L_3 L_4 g_m \cdots \right)}$$

**10.625   INVALID-ORDER-625** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{R_4 \left( C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 \cdots}{2R_3 + R_4 + s^6 \left( 2C_1 C_3 C_4 L_1 L_3 L_4 R_3 + C_1 C_3 C_4 L_1 L_3 L_4 R_4 \right) + s^5 \left( 2C_1 C_3 C_4 L_1 L_3 R_3 R_4 + 2C_1 C_4 L_1 L_3 L_4 + 2C_3 C_4 L_1 L_3 L_4 R_3 g_m + C_3 C_4 L_1 L_3 L_4 R_4 g_m \right) + s^4 \left( 2C_1 C_3 L_1 L_3 R_3 + C_1 C_3 L_1 L_3 R_4 + 2C_1 C_4 L_1 L_3 R_4 + C_1 C_4 L_1 L_4 R_4 + 2C_3 C_4 L_1 L_3 R_3 R_4 g_m + \cdots \right)}$$

**10.626   INVALID-ORDER-626** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{R_3 \left( C_3 L_3 s^2 + 1 \right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_1 L_3 R_3 R_4 g_m s^3 + L_1 R_3 R_4 g_m s}{2 R_3 + R_4 + s^4 \left( 2 C_1 C_3 L_1 L_3 R_3 + C_1 C_3 L_1 L_3 R_4 \right) + s^3 \left( C_1 C_3 L_1 R_3 R_4 + 2 C_3 L_1 L_3 R_3 g_m + C_3 L_1 L_3 R_4 g_m \right) + s^2 \left( 2 C_1 L_1 R_3 + C_1 L_1 R_4 + C_3 L_1 R_3 R_4 g_m + 2 C_3 L_3 R_3 + C_3 L_3 R_4 \right) + s \left( C_3 R_3 R_4 + 2 L_1 R_3 g_m + L_1 R_4 g_m \right)}$$

**10.627   INVALID-ORDER-627** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{R_3 \left( C_3 L_3 s^2 + 1 \right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_1 L_3 R_3 g_m s^3 + L_1 R_3 g_m s}{2 C_1 C_3 C_4 L_1 L_3 R_3 s^5 + s^4 \left( C_1 C_3 L_1 L_3 + 2 C_3 C_4 L_1 L_3 R_3 g_m \right) + s^3 \left( C_1 C_3 L_1 R_3 + 2 C_1 C_4 L_1 R_3 + 2 C_3 C_4 L_3 R_3 + C_3 L_1 L_3 g_m \right) + s^2 \left( C_1 L_1 + C_3 L_1 R_3 g_m + C_3 L_3 + 2 C_4 L_1 R_3 g_m \right) + s \left( C_3 R_3 + 2 C_4 R_3 + L_1 g_m \right) + 1}$$

**10.628   INVALID-ORDER-628** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{R_3 \left( C_3 L_3 s^2 + 1 \right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_1 L_3 R_3 R_4 g_m s^3 + L_1 R_3 R_4 g_m s}{2 C_1 C_3 C_4 L_1 L_3 R_3 R_4 s^5 + 2 R_3 + R_4 + s^4 \left( 2 C_1 C_3 L_1 L_3 R_3 + C_1 C_3 L_1 L_3 R_4 + 2 C_3 C_4 L_1 L_3 R_3 R_4 g_m \right) + s^3 \left( C_1 C_3 L_1 R_3 R_4 + 2 C_1 C_4 L_1 R_3 R_4 + 2 C_3 C_4 L_3 R_3 R_4 + 2 C_3 L_1 L_3 R_3 g_m + C_3 L_1 L_3 R_4 g_m \right) + s^2 \left( 2 C_1 L_1 R_3 + C_1 L_1 R_4 + C_3 L_1 R_3 R_4 g_m + 2 C_3 L_3 R_3 + C_3 L_3 R_4 + 2 C_4 L \ldots \right)}$$

**10.629   INVALID-ORDER-629** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{R_3 \left( C_3 L_3 s^2 + 1 \right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 R_3 R_4 g_m s^4 + C_3 L_1 L_3 R_3 g_m s^3 + C_4 L_1 R_3 R_4 g_m s^2 + L_1 R_3 g_m s}{s^5 \left( 2 C_1 C_3 C_4 L_1 L_3 R_3 + C_1 C_3 C_4 L_1 L_3 R_4 \right) + s^4 \left( C_1 C_3 C_4 L_1 R_3 R_4 + C_1 C_3 L_1 L_3 + 2 C_3 C_4 L_1 L_3 R_3 g_m + C_3 C_4 L_1 L_3 R_4 g_m \right) + s^3 \left( C_1 C_3 L_1 R_3 + 2 C_1 C_4 L_1 R_3 + C_1 C_4 L_1 R_4 + C_3 C_4 L_1 R_3 R_4 g_m + 2 C_3 C_4 L_3 R_3 + C_3 C_4 L_3 R_4 + C_3 L_1 L_3 g_m \right) + s^2 \left( C_1 L_1 + C_3 C_4 R_3 R_4 + C_3 L_1 R \ldots \right)}$$

**10.630   INVALID-ORDER-630** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{R_3 \left( C_3 L_3 s^2 + 1 \right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 R_3 g_m s^5 + L_1 R_3 g_m s + s^3 \left( C_3 L_1 L_3 R_3 g_m + C_4 L_1 L_4 R_3 g_m \right)}{C_1 C_3 C_4 L_1 L_3 L_4 s^6 + s^5 \left( 2 C_1 C_3 C_4 L_1 L_3 R_3 + C_1 C_3 C_4 L_1 L_4 R_3 + C_3 C_4 L_1 L_3 L_4 g_m \right) + s^4 \left( C_1 C_3 L_1 L_3 + C_1 C_4 L_1 L_4 + 2 C_3 C_4 L_1 L_3 R_3 g_m + C_3 C_4 L_1 L_4 R_3 g_m + C_3 C_4 L_3 L_4 \right) + s^3 \left( C_1 C_3 L_1 R_3 + 2 C_1 C_4 L_1 R_3 + 2 C_3 C_4 L_3 R_3 + C_3 C_4 L_4 R_3 + C_3 L_1 L_3 g_m + C_4 L_1 L_4 g_m \right) + s^2 \left( C \ldots \right)}$$

**10.631   INVALID-ORDER-631** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{R_3 \left( C_3 L_3 s^2 + 1 \right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_1 L_3 L_4 R_3 g_m s^4 + L_1 L_4 R_3 g_m s^2}{2 C_1 C_3 C_4 L_1 L_3 L_4 R_3 s^6 + 2 R_3 + s^5 \left( C_1 C_3 L_1 L_3 L_4 + 2 C_3 C_4 L_1 L_3 L_4 R_3 g_m \right) + s^4 \left( 2 C_1 C_3 L_1 L_3 R_3 + C_1 C_3 L_1 L_4 R_3 + 2 C_1 C_4 L_1 L_4 R_3 + 2 C_3 C_4 L_3 L_4 R_3 + C_3 L_1 L_3 L_4 g_m \right) + s^3 \left( C_1 L_1 L_4 + 2 C_3 L_1 L_3 R_3 g_m + C_3 L_1 L_4 R_3 g_m + C_3 L_3 L_4 + 2 C_4 L_1 L_4 R_3 g_m \right) + s^2 \left( 2 C_1 L_1 R_3 + 2 C_3 \ldots \right)}$$

**10.632   INVALID-ORDER-632** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{R_3 \left( C_3 L_3 s^2 + 1 \right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 R_3 g_m s^5 + C_3 C_4 L_1 L_3 R_3 R_4 g_m s^4 + C_4 L_1 R_3 R_4 g_m s^2 + L_1 R_3 g_m \ldots}{C_1 C_3 C_4 L_1 L_3 L_4 s^6 + s^5 \left( 2 C_1 C_3 C_4 L_1 L_3 R_3 + C_1 C_3 C_4 L_1 L_3 R_4 + C_1 C_3 C_4 L_1 L_4 R_3 + C_3 C_4 L_1 L_3 L_4 g_m \right) + s^4 \left( C_1 C_3 C_4 L_1 R_3 R_4 + C_1 C_3 L_1 L_3 + C_1 C_4 L_1 L_4 + 2 C_3 C_4 L_1 L_3 R_3 g_m + C_3 C_4 L_1 L_3 R_4 g_m + C_3 C_4 L_1 L_4 R_3 g_m + C_3 C_4 L_3 L_4 \right) + s^3 \left( C_1 C_3 L_1 R_3 + 2 C_1 C_4 L_1 R_3 + C_1 C \ldots \right)}$$

**10.633   INVALID-ORDER-633** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{R_3 \left( C_3 L_3 s^2 + 1 \right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_1 L_3 L_4 R_3 R_4 g_m s^4 + L_1 L_4 R_3 R_4 g_m s^2}{2 C_1 C_3 C_4 L_1 L_3 L_4 R_3 R_4 s^6 + 2 R_3 R_4 + s^5 \left( 2 C_1 C_3 L_1 L_3 L_4 R_3 + C_1 C_3 L_1 L_3 L_4 R_4 + 2 C_3 C_4 L_1 L_3 L_4 R_3 R_4 g_m \right) + s^4 \left( 2 C_1 C_3 L_1 L_3 R_3 R_4 + C_1 C_3 L_1 L_4 R_3 R_4 + 2 C_1 C_4 L_1 L_4 R_3 R_4 + 2 C_3 C_4 L_3 L_4 R_3 R_4 + 2 C_3 L_1 L_3 L_4 R_3 g_m + C_3 L_1 L_3 L_4 R_4 g_m \right) + s^3 \left( 2 C_1 L_1 L_4 R_3 + C_1 L_1 L_4 R_4 + \ldots \right)}$$

**10.634   INVALID-ORDER-634** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{R_3 \left( C_3 L_3 s^2 + 1 \right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 R_3 R \ldots}{2 R_3 + R_4 + s^6 \left( 2 C_1 C_3 C_4 L_1 L_3 L_4 R_3 + C_1 C_3 C_4 L_1 L_3 L_4 R_4 \right) + s^5 \left( C_1 C_3 C_4 L_1 L_4 R_3 R_4 + C_1 C_3 L_1 L_3 L_4 + 2 C_3 C_4 L_1 L_3 L_4 R_3 g_m + C_3 C_4 L_1 L_3 L_4 R_4 g_m \right) + s^4 \left( 2 C_1 C_3 L_1 L_3 R_3 + C_1 C_3 L_1 L_3 R_4 + C_1 C_3 L_1 L_4 R_3 + 2 C_1 C_4 L_1 L_4 R_3 + C_1 C_4 L_1 L_4 R_4 + C_3 C_4 L_1 L_4 R_3 R_4 g_m + 2 C_3 \ldots \right)}$$

**10.635 INVALID-ORDER-635** $Z(s) = \left( \frac{L_1 s}{C_1 L_1 s^2 + 1},\ \infty,\ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1},\ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1},\ \infty,\ \infty \right)$

$$H(s) = \frac{C}{2R_3 + R_4 + s^6 \left(2C_1 C_3 C_4 L_1 L_3 L_4 R_3 + C_1 C_3 C_4 L_1 L_3 L_4 R_4\right) + s^5 \left(2C_1 C_3 C_4 L_1 L_3 R_3 R_4 + C_1 C_3 C_4 L_1 L_4 R_3 R_4 + 2C_3 C_4 L_1 L_3 L_4 R_3 g_m + C_3 C_4 L_1 L_3 L_4 R_4 g_m\right) + s^4 \left(2C_1 C_3 L_1 L_3 R_3 + C_1 C_3 L_1 L_3 R_4 + 2C_1 C_4 L_1 L_4 R_3 + C_1 C_4 L_1 L_4 R_4 + 2C_3 C_4 L_1 L_3 R_3 R_4 g_m + C_3 C_4 L_1 L}{}$$

**10.636 INVALID-ORDER-636** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s},\ \infty,\ R_3,\ \frac{1}{C_4 s},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_1 L_1 R_3 g_m s^2 + C_1 R_1 R_3 g_m s + R_3 g_m}{2C_1 C_4 L_1 R_3 g_m s^3 + g_m + s^2 \left(2C_1 C_4 R_1 R_3 g_m + 2C_1 C_4 R_3 + C_1 L_1 g_m\right) + s \left(C_1 R_1 g_m + C_1 + 2C_4 R_3 g_m\right)}$$

**10.637 INVALID-ORDER-637** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s},\ \infty,\ R_3,\ \frac{R_4}{C_4 R_4 s + 1},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_1 L_1 R_3 R_4 g_m s^2 + C_1 R_1 R_3 R_4 g_m s + R_3 R_4 g_m}{2C_1 C_4 L_1 R_3 R_4 g_m s^3 + 2R_3 g_m + R_4 g_m + s^2 \left(2C_1 C_4 R_1 R_3 R_4 g_m + 2C_1 C_4 R_3 R_4 + 2C_1 L_1 R_3 g_m + C_1 L_1 R_4 g_m\right) + s \left(2C_1 R_1 R_3 g_m + C_1 R_1 R_4 g_m + 2C_1 R_3 + C_1 R_4 + 2C_4 R_3 R_4 g_m\right)}$$

**10.638 INVALID-ORDER-638** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s},\ \infty,\ R_3,\ R_4 + \frac{1}{C_4 s},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_1 C_4 L_1 R_3 R_4 g_m s^3 + R_3 g_m + s^2 \left(C_1 C_4 R_1 R_3 R_4 g_m + C_1 L_1 R_3 g_m\right) + s \left(C_1 R_1 R_3 g_m + C_4 R_3 R_4 g_m\right)}{g_m + s^3 \left(2C_1 C_4 L_1 R_3 g_m + C_1 C_4 L_1 R_4 g_m\right) + s^2 \left(2C_1 C_4 R_1 R_3 g_m + C_1 C_4 R_1 R_4 g_m + 2C_1 C_4 R_3 + C_1 C_4 R_4 + C_1 L_1 g_m\right) + s \left(C_1 R_1 g_m + C_1 + 2C_4 R_3 g_m + C_4 R_4 g_m\right)}$$

**10.639 INVALID-ORDER-639** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s},\ \infty,\ R_3,\ L_4 s + \frac{1}{C_4 s},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_1 C_4 L_1 L_4 R_3 g_m s^4 + C_1 C_4 L_4 R_1 R_3 g_m s^3 + C_1 R_1 R_3 g_m s + R_3 g_m + s^2 \left(C_1 L_1 R_3 g_m + C_4 L_4 R_3 g_m\right)}{C_1 C_4 L_1 L_4 g_m s^4 + g_m + s^3 \left(2C_1 C_4 L_1 R_3 g_m + C_1 C_4 L_4 R_1 g_m + C_1 C_4 L_4\right) + s^2 \left(2C_1 C_4 R_1 R_3 g_m + 2C_1 C_4 R_3 + C_1 L_1 g_m + C_4 L_4 g_m\right) + s \left(C_1 R_1 g_m + C_1 + 2C_4 R_3 g_m\right)}$$

**10.640 INVALID-ORDER-640** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s},\ \infty,\ R_3,\ \frac{L_4 s}{C_4 L_4 s^2 + 1},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_1 L_1 L_4 R_3 g_m s^3 + C_1 L_4 R_1 R_3 g_m s^2 + L_4 R_3 g_m s}{2C_1 C_4 L_1 L_4 R_3 g_m s^4 + 2R_3 g_m + s^3 \left(2C_1 C_4 L_4 R_1 R_3 g_m + 2C_1 C_4 L_4 R_3 + C_1 L_1 L_4 g_m\right) + s^2 \left(2C_1 L_1 R_3 g_m + C_1 L_4 R_1 g_m + C_1 L_4 + 2C_4 L_4 R_3 g_m\right) + s \left(2C_1 R_1 R_3 g_m + 2C_1 R_3 + L_4 g_m\right)}$$

**10.641 INVALID-ORDER-641** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s},\ \infty,\ R_3,\ L_4 s + R_4 + \frac{1}{C_4 s},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_1 C_4 L_1 L_4 R_3 g_m s^4 + R_3 g_m + s^3 \left(C_1 C_4 L_1 R_3 R_4 g_m + C_1 C_4 L_4 R_1 R_3 g_m\right) + s^2 \left(C_1 C_4 R_1 R_3 R_4 g_m + C_1 L_1 R_3 g_m + C_4 L_4 R_3 g_m\right) + s \left(C_1 R_1 R_3 g_m + C_4 R_3 R_4 g_m\right)}{C_1 C_4 L_1 L_4 g_m s^4 + g_m + s^3 \left(2C_1 C_4 L_1 R_3 g_m + C_1 C_4 L_1 R_4 g_m + C_1 C_4 L_4 R_1 g_m + C_1 C_4 L_4\right) + s^2 \left(2C_1 C_4 R_1 R_3 g_m + C_1 C_4 R_1 R_4 g_m + 2C_1 C_4 R_3 + C_1 C_4 R_4 + C_1 L_1 g_m + C_4 L_4 g_m\right) + s \left(C_1 R_1 g_m + C_1 + 2C_4 R_3 g_m + C_4 R_4 g_m\right)}$$

**10.642 INVALID-ORDER-642** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s},\ \infty,\ R_3,\ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_1 L_1 L_4 R_3 R_4 g_m s^3 + C_1 L_4 R_1 R_3 R_4 g_m s^2 + L_4 R_3 R_4 g_m s}{2C_1 C_4 L_1 L_4 R_3 R_4 g_m s^4 + 2R_3 R_4 g_m + s^3 \left(2C_1 C_4 L_4 R_1 R_3 R_4 g_m + 2C_1 C_4 L_4 R_3 R_4 + 2C_1 L_1 L_4 R_3 g_m + C_1 L_1 L_4 R_4 g_m\right) + s^2 \left(2C_1 L_1 R_3 R_4 g_m + 2C_1 L_4 R_1 R_3 g_m + C_1 L_4 R_1 R_4 g_m + 2C_1 L_4 R_3 + C_1 L_4 R_4 + 2C_4 L_4 R_3 R_4 g_m\right) + s \left(2C_1 R_1 R_3 R_4 g_m + 2C_1 R_3 R_4 + 2L_4 R_3 g_m + L}{}$$

**10.643 INVALID-ORDER-643** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s},\ \infty,\ R_3,\ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1},\ \infty,\ \infty \right)$

$$H(s) = \frac{C_1 C_4 L_1 L_4 R_3 R_4 g_m s^4 + R_3 R_4 g_m + s^3 \left(C_1 C_4 L_4 R_1 R_3 R_4 g_m + C_1 L_1 L_4 R_3 g_m\right) + s^2 \left(C_1 L_1 R_3 R_4 g_m + C_1 L_4 R_1 R_3 g_m + C_4 L_4 R_3 R_4 g_m\right) + s \left(C_1 R_1 R_3 R_4 g_m + L_4 R_3 g_m\right)}{2R_3 g_m + R_4 g_m + s^4 \left(2C_1 C_4 L_1 L_4 R_3 g_m + C_1 C_4 L_1 L_4 R_4 g_m\right) + s^3 \left(2C_1 C_4 L_4 R_1 R_3 g_m + C_1 C_4 L_4 R_1 R_4 g_m + 2C_1 C_4 L_4 R_3 + C_1 C_4 L_4 R_4 + C_1 L_1 L_4 g_m\right) + s^2 \left(2C_1 L_1 R_3 g_m + C_1 L_1 R_4 g_m + C_1 L_4 R_1 g_m + C_1 L_4 + 2C_4 L_4 R_3 g_m + C_4 L_4 R_4 g_m\right) + s \left(2C_1 R_1 R_3 g_m + C_1 R_1 R_4 g_m\right.}{}$$

**10.644  INVALID-ORDER-644** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ R_3, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_1 L_4 R_3 R_4 g_m s^4 + C_1 C_4 L_4 R_1 R_3 R_4 g_m s^3 + C_1 R_1 R_3 R_4 g_m s + R_3 R_4 g_m + s^2\left(C_1 L_1 R_3 R_4 g_m + C_4 L_4 R_3 R_4 g_m\right)}{2R_3 g_m + R_4 g_m + s^4\left(2C_1 C_4 L_1 L_4 R_3 g_m + C_1 C_4 L_1 L_4 R_4 g_m\right) + s^3\left(2C_1 C_4 L_1 R_3 R_4 g_m + 2C_1 C_4 L_4 R_1 R_3 g_m + C_1 C_4 L_4 R_1 R_4 g_m + 2C_1 C_4 L_4 R_3 + C_1 C_4 L_4 R_4\right) + s^2\left(2C_1 C_4 R_1 R_3 R_4 g_m + 2C_1 C_4 R_3 R_4 + 2C_1 L_1 R_3 g_m + C_1 L_1 R_4 g_m + 2C_4 L_4 R_3 g_m + C_4 L_4 R_4 g_m\right) + s\left(2C_1 R \ldots\right)}$$

**10.645  INVALID-ORDER-645** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{1}{C_3 s}, \ R_4, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_1 R_4 g_m s^2 + C_1 R_1 R_4 g_m s + R_4 g_m}{C_1 C_3 L_1 R_4 g_m s^3 + 2g_m + s^2\left(C_1 C_3 R_1 R_4 g_m + C_1 C_3 R_4 + 2C_1 L_1 g_m\right) + s\left(2C_1 R_1 g_m + 2C_1 + C_3 R_4 g_m\right)}$$

**10.646  INVALID-ORDER-646** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_1 g_m s^2 + C_1 R_1 g_m s + g_m}{s^3\left(C_1 C_3 L_1 g_m + 2C_1 C_4 L_1 g_m\right) + s^2\left(C_1 C_3 R_1 g_m + C_1 C_3 + 2C_1 C_4 R_1 g_m + 2C_1 C_4\right) + s\left(C_3 g_m + 2C_4 g_m\right)}$$

**10.647  INVALID-ORDER-647** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_1 R_4 g_m s^2 + C_1 R_1 R_4 g_m s + R_4 g_m}{2g_m + s^3\left(C_1 C_3 L_1 R_4 g_m + 2C_1 C_4 L_1 R_4 g_m\right) + s^2\left(C_1 C_3 R_1 R_4 g_m + C_1 C_3 R_4 + 2C_1 C_4 R_1 R_4 g_m + 2C_1 C_4 R_4 + 2C_1 L_1 g_m\right) + s\left(2C_1 R_1 g_m + 2C_1 + C_3 R_4 g_m + 2C_4 R_4 g_m\right)}$$

**10.648  INVALID-ORDER-648** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{1}{C_3 s}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_1 R_4 g_m s^3 + g_m + s^2\left(C_1 C_4 R_1 R_4 g_m + C_1 L_1 g_m\right) + s\left(C_1 R_1 g_m + C_4 R_4 g_m\right)}{C_1 C_3 C_4 L_1 R_4 g_m s^4 + s^3\left(C_1 C_3 C_4 R_1 R_4 g_m + C_1 C_3 C_4 R_4 + C_1 C_3 L_1 g_m + 2C_1 C_4 L_1 g_m\right) + s^2\left(C_1 C_3 R_1 g_m + C_1 C_3 + 2C_1 C_4 R_1 g_m + 2C_1 C_4 + C_3 C_4 R_4 g_m\right) + s\left(C_3 g_m + 2C_4 g_m\right)}$$

**10.649  INVALID-ORDER-649** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_1 L_4 g_m s^4 + C_1 C_4 L_4 R_1 g_m s^3 + C_1 R_1 g_m s + g_m + s^2\left(C_1 L_1 g_m + C_4 L_4 g_m\right)}{C_1 C_3 C_4 L_1 L_4 g_m s^5 + s^4\left(C_1 C_3 C_4 L_4 R_1 g_m + C_1 C_3 C_4 L_4\right) + s^3\left(C_1 C_3 L_1 g_m + 2C_1 C_4 L_1 g_m + C_3 C_4 L_4 g_m\right) + s^2\left(C_1 C_3 R_1 g_m + C_1 C_3 + 2C_1 C_4 R_1 g_m + 2C_1 C_4\right) + s\left(C_3 g_m + 2C_4 g_m\right)}$$

**10.650  INVALID-ORDER-650** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_1 L_4 g_m s^3 + C_1 L_4 R_1 g_m s^2 + L_4 g_m s}{2g_m + s^4\left(C_1 C_3 L_1 L_4 g_m + 2C_1 C_4 L_1 L_4 g_m\right) + s^3\left(C_1 C_3 L_4 R_1 g_m + C_1 C_3 L_4 + 2C_1 C_4 L_4 R_1 g_m + 2C_1 C_4 L_4\right) + s^2\left(2C_1 L_1 g_m + C_3 L_4 g_m + 2C_4 L_4 g_m\right) + s\left(2C_1 R_1 g_m + 2C_1\right)}$$

**10.651  INVALID-ORDER-651** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{1}{C_3 s}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_1 L_4 g_m s^4 + g_m + s^3\left(C_1 C_4 L_1 R_4 g_m + C_1 C_4 L_4 R_1 g_m\right) + s^2\left(C_1 C_4 R_1 R_4 g_m + C_1 L_1 g_m + C_4 L_4 g_m\right) + s\left(C_1 R_1 g_m + C_4 R_4 g_m\right)}{C_1 C_3 C_4 L_1 L_4 g_m s^5 + s^4\left(C_1 C_3 C_4 L_1 R_4 g_m + C_1 C_3 C_4 L_4 R_1 g_m + C_1 C_3 C_4 L_4\right) + s^3\left(C_1 C_3 C_4 R_1 R_4 g_m + C_1 C_3 C_4 R_4 + C_1 C_3 L_1 g_m + 2C_1 C_4 L_1 g_m + C_3 C_4 L_4 g_m\right) + s^2\left(C_1 C_3 R_1 g_m + C_1 C_3 + 2C_1 C_4 R_1 g_m + 2C_1 C_4 + C_3 C_4 R_4 g_m\right) + s\left(C_3 g_m + 2C_4 g_m\right)}$$

**10.652  INVALID-ORDER-652** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_1 L_4 R_4 g_m s^3 + C_1 L_4 R_1 R_4 g_m s^2 + L_4 R_4 g_m s}{2R_4 g_m + s^4\left(C_1 C_3 L_1 L_4 R_4 g_m + 2C_1 C_4 L_1 L_4 R_4 g_m\right) + s^3\left(C_1 C_3 L_4 R_1 R_4 g_m + C_1 C_3 L_4 R_4 + 2C_1 C_4 L_4 R_1 R_4 g_m + 2C_1 C_4 L_4 R_4 + 2C_1 L_1 L_4 g_m\right) + s^2\left(2C_1 L_1 R_4 g_m + 2C_1 L_4 R_1 g_m + 2C_1 L_4 + C_3 L_4 R_4 g_m + 2C_4 L_4 R_4 g_m\right) + s\left(2C_1 R_1 R_4 g_m + 2C_1 R_4 + 2L_4 g_m\right)}$$

**10.653  INVALID-ORDER-653** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_1 L_4 R_4 g_m s^4 + R_4 g_m + s^3\left(C_1 C_4 L_4 R_1 R_4 g_m + C_1 L_1 L_4 g_m\right) + s^2\left(C_1 L_1 R_4 g_m + C_1 L_4 R_1 g_m + C_4 L_4 R_4 g_m\right) + s\left(C_1 R_1 R_4 g_m + L_4 g_m\right)}{C_1 C_3 C_4 L_1 L_4 R_4 g_m s^5 + 2g_m + s^4\left(C_1 C_3 C_4 L_4 R_1 R_4 g_m + C_1 C_3 C_4 L_4 R_4 + C_1 C_3 L_1 L_4 g_m + 2C_1 C_4 L_1 L_4 g_m\right) + s^3\left(C_1 C_3 L_1 R_4 g_m + C_1 C_3 L_4 R_1 g_m + C_1 C_3 L_4 + 2C_1 C_4 L_4 R_1 g_m + 2C_1 C_4 L_4 + C_3 C_4 L_4 R_4 g_m\right) + s^2\left(C_1 C_3 R_1 R_4 g_m + C_1 C_3 R_4 + 2C_1 L_1 g_m + C_3 L_4 g_m + 2C_4 \ldots\right)}$$

**10.654 INVALID-ORDER-654** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{R_4(C_4 L_4 s^2 + 1)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_4 L_1 L_4 R_4 g_m s^4 + C_1 C_4 L_4 R_1 R_4 g_m s^3 + C_1 R_1 R_4 g_m s + R_4 g_m + s^2 (C_1 L_1 R_4 g_m + C_4 L_4 R_4 g_m)}{C_1 C_3 C_4 L_1 L_4 R_4 g_m s^5 + 2 g_m + s^4 (C_1 C_3 C_4 L_4 R_1 R_4 g_m + C_1 C_3 C_4 L_4 R_4 + 2 C_1 C_4 L_1 L_4 g_m) + s^3 (C_1 C_3 L_1 R_4 g_m + 2 C_1 C_4 L_1 R_4 g_m + 2 C_1 C_4 L_4 R_1 g_m + 2 C_1 C_4 L_4 + C_3 C_4 L_4 R_4 g_m) + s^2 (C_1 C_3 R_1 R_4 g_m + C_1 C_3 R_4 + 2 C_1 C_4 R_1 R_4 g_m + 2 C_1 C_4 R_4 + 2 C_1 L_1 g_m + 2 C_4 L_4 g_m) + \cdots}$$

**10.655 INVALID-ORDER-655** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 L_1 R_3 R_4 g_m s^2 + C_1 R_1 R_3 R_4 g_m s + R_3 R_4 g_m}{C_1 C_3 L_1 R_3 R_4 g_m s^3 + 2 R_3 g_m + R_4 g_m + s^2 (C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4 + 2 C_1 L_1 R_3 g_m + C_1 L_1 R_4 g_m) + s (2 C_1 R_1 R_3 g_m + C_1 R_1 R_4 g_m + 2 C_1 R_3 + C_1 R_4 + C_3 R_3 R_4 g_m)}$$

**10.656 INVALID-ORDER-656** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 L_1 R_3 g_m s^2 + C_1 R_1 R_3 g_m s + R_3 g_m}{g_m + s^3 (C_1 C_3 L_1 R_3 g_m + 2 C_1 C_4 L_1 R_3 g_m) + s^2 (C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_3 + 2 C_1 C_4 R_1 R_3 g_m + 2 C_1 C_4 R_3 + C_1 L_1 g_m) + s (C_1 R_1 g_m + C_1 + C_3 R_3 g_m + 2 C_4 R_3 g_m)}$$

**10.657 INVALID-ORDER-657** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 L_1 R_3 R_4 g_m s^2 + C_1 R_1 R_3 R_4 g_m s + R_3 R_4 g_m}{2 R_3 g_m + R_4 g_m + s^3 (C_1 C_3 L_1 R_3 R_4 g_m + 2 C_1 C_4 L_1 R_3 R_4 g_m) + s^2 (C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4 + 2 C_1 C_4 R_1 R_3 R_4 g_m + 2 C_1 C_4 R_3 R_4 + 2 C_1 L_1 R_3 g_m + C_1 L_1 R_4 g_m) + s (2 C_1 R_1 R_3 g_m + C_1 R_1 R_4 g_m + 2 C_1 R_3 + C_1 R_4 + C_3 R_3 R_4 g_m + 2 C_4 R_3 R_4 g_m)}$$

**10.658 INVALID-ORDER-658** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_4 L_1 R_3 R_4 g_m s^3 + R_3 g_m + s^2 (C_1 C_4 R_1 R_3 R_4 g_m + C_1 L_1 R_3 g_m) + s (C_1 R_1 R_3 g_m + C_4 R_3 R_4 g_m)}{C_1 C_3 C_4 L_1 R_3 R_4 g_m s^4 + g_m + s^3 (C_1 C_3 C_4 R_1 R_3 R_4 g_m + C_1 C_3 C_4 R_3 R_4 + C_1 C_3 L_1 R_3 g_m + 2 C_1 C_4 L_1 R_3 g_m + C_1 C_4 L_1 R_4 g_m) + s^2 (C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_3 + 2 C_1 C_4 R_1 R_3 g_m + C_1 C_4 R_1 R_4 g_m + 2 C_1 C_4 R_3 + C_1 C_4 R_4 + C_1 L_1 g_m + C_3 C_4 R_3 R_4 g_m) + s (C_1 R_1 g_m + C_1 + \cdots}$$

**10.659 INVALID-ORDER-659** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_4 L_1 L_4 R_3 g_m s^4 + C_1 C_4 L_4 R_1 R_3 g_m s^3 + C_1 R_1 R_3 g_m s + R_3 g_m + s^2 (C_1 L_1 R_3 g_m + C_4 L_4 R_3 g_m)}{C_1 C_3 C_4 L_1 L_4 R_3 g_m s^5 + g_m + s^4 (C_1 C_3 C_4 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_4 R_3 + C_1 C_4 L_1 L_4 g_m) + s^3 (C_1 C_3 L_1 R_3 g_m + 2 C_1 C_4 L_1 R_3 g_m + C_1 C_4 L_4 R_1 g_m + C_1 C_4 L_4 + C_3 C_4 L_4 R_3 g_m) + s^2 (C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_3 + 2 C_1 C_4 R_1 R_3 g_m + 2 C_1 C_4 R_3 + C_1 L_1 g_m + C_4 L_4 g_m) + s (C_1 \cdots}$$

**10.660 INVALID-ORDER-660** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 L_1 L_4 R_3 g_m s^3 + C_1 L_4 R_1 R_3 g_m s^2 + L_4 R_3 g_m s}{2 R_3 g_m + s^4 (C_1 C_3 L_1 L_4 R_3 g_m + 2 C_1 C_4 L_1 L_4 R_3 g_m) + s^3 (C_1 C_3 L_4 R_1 R_3 g_m + C_1 C_3 L_4 R_3 + 2 C_1 C_4 L_4 R_1 R_3 g_m + 2 C_1 C_4 L_4 R_3 + C_1 L_1 L_4 g_m) + s^2 (2 C_1 L_1 R_3 g_m + C_1 L_4 R_1 g_m + C_1 L_4 + C_3 L_4 R_3 g_m + 2 C_4 L_4 R_3 g_m) + s (2 C_1 R_1 R_3 g_m + 2 C_1 R_3 + L_4 g_m)}$$

**10.661 INVALID-ORDER-661** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_4 L_1 L_4 R_3 g_m s^4 + R_3 g_m + s^3 (C_1 C_4 L_1 R_3 R_4 g_m + C_1 C_4 L_4 R_1 R_3 g_m) + s^2 (C_1 C_4 R_1 R_3 R_4 g_m + C_1 L_1 R_3 g_m + C_4 L_4 R_3 g_m) + \cdots}{C_1 C_3 C_4 L_1 L_4 R_3 g_m s^5 + g_m + s^4 (C_1 C_3 C_4 L_1 R_3 R_4 g_m + C_1 C_3 C_4 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_4 R_3 + C_1 C_4 L_1 L_4 g_m) + s^3 (C_1 C_3 C_4 R_1 R_3 R_4 g_m + C_1 C_3 C_4 R_3 R_4 + C_1 C_3 L_1 R_3 g_m + 2 C_1 C_4 L_1 R_3 g_m + C_1 C_4 L_1 R_4 g_m + C_1 C_4 L_4 R_1 g_m + C_1 C_4 L_4 + C_3 C_4 L_4 R_3 g_m) + s^2 (C_1 C_3 L_4 \cdots}$$

**10.662 INVALID-ORDER-662** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 L_1 L_4 R_3 R_4 g_m s^3 + C_1 L_4 R_1 R_3 R_4 g_m s^2 + L_4 R_3 R_4 g_m s}{2 R_3 R_4 g_m + s^4 (C_1 C_3 L_1 L_4 R_3 R_4 g_m + 2 C_1 C_4 L_1 L_4 R_3 R_4 g_m) + s^3 (C_1 C_3 L_4 R_1 R_3 R_4 g_m + C_1 C_3 L_4 R_3 R_4 + 2 C_1 C_4 L_4 R_1 R_3 R_4 g_m + 2 C_1 C_4 L_4 R_3 R_4 + 2 C_1 L_1 L_4 R_3 g_m + C_1 L_1 L_4 R_4 g_m) + s^2 (2 C_1 L_1 R_3 R_4 g_m + 2 C_1 L_4 R_1 R_3 g_m + C_1 L_4 R_1 R_4 g_m + 2 C_1 L_4 R_3 + C_1 L_4 R_4 + C_3 \cdots}$$

**10.663 INVALID-ORDER-663** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_4 L_1 L_4 R_3 R_4 g_m s^4 + R_3 R_4 g_m + s^3 (C_1 C_4 L_4 R_1 R_3 R_4 g_m + C_1 L_1 L_4 R_3 g_m) + s^2 (C_1 L_1 \cdots}{C_1 C_3 C_4 L_1 L_4 R_3 R_4 g_m s^5 + 2 R_3 g_m + R_4 g_m + s^4 (C_1 C_3 C_4 L_4 R_1 R_3 R_4 g_m + C_1 C_3 C_4 L_4 R_3 R_4 + C_1 C_3 L_1 L_4 R_3 g_m + 2 C_1 C_4 L_1 L_4 R_3 g_m + C_1 C_4 L_1 L_4 R_4 g_m) + s^3 (C_1 C_3 L_1 R_3 R_4 g_m + C_1 C_3 L_4 R_1 R_3 g_m + C_1 C_3 L_4 R_3 + 2 C_1 C_4 L_4 R_1 R_3 g_m + C_1 C_4 L_4 R_1 R_4 g_m + 2 C_1 C_4 L_4 R_3 \cdots}$$

**10.664** **INVALID-ORDER-664** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_4 L_1 L_4 R_3 R_4 g_m s^4 + C_1 C_4 L_4 R_1 R_3 R_4 g_m s^3 + C_1 R_1 R_3 R_4 g_m s + R_3 R_4 g_m + s^2 (\dots}{C_1 C_3 C_4 L_1 L_4 R_3 R_4 g_m s^5 + 2R_3 g_m + R_4 g_m + s^4 (C_1 C_3 C_4 L_4 R_1 R_3 R_4 g_m + C_1 C_3 C_4 L_4 R_3 R_4 + 2C_1 C_4 L_1 L_4 R_3 g_m + C_1 C_4 L_1 L_4 R_4 g_m) + s^3 (C_1 C_3 L_1 R_3 R_4 g_m + 2C_1 C_4 L_1 R_3 R_4 g_m + 2C_1 C_4 L_4 R_1 R_3 g_m + C_1 C_4 L_4 R_1 R_4 g_m + 2C_1 C_4 L_4 R_3 + C_1 C_4 L_4 R_4 + C_3 C_4 L_4 R_3 R_4 g_m}$$

**10.665** **INVALID-ORDER-665** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 L_1 R_3 R_4 g_m s^3 + R_4 g_m + s^2 (C_1 C_3 R_1 R_3 R_4 g_m + C_1 L_1 R_4 g_m) + s (C_1 R_1 R_4 g_m + C_3 R_3 R_4 g_m)}{2g_m + s^3 (2C_1 C_3 L_1 R_3 g_m + C_1 C_3 L_1 R_4 g_m) + s^2 (2C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_1 R_4 g_m + 2C_1 C_3 R_3 + C_1 C_3 R_4 + 2C_1 L_1 g_m) + s (2C_1 R_1 g_m + 2C_1 + 2C_3 R_3 g_m + C_3 R_4 g_m)}$$

**10.666** **INVALID-ORDER-666** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 L_1 R_3 g_m s^3 + g_m + s^2 (C_1 C_3 R_1 R_3 g_m + C_1 L_1 g_m) + s (C_1 R_1 g_m + C_3 R_3 g_m)}{2C_1 C_3 C_4 L_1 R_3 g_m s^4 + s^3 (2C_1 C_3 C_4 R_1 R_3 g_m + 2C_1 C_3 C_4 R_3 + C_1 C_3 L_1 g_m + 2C_1 C_4 L_1 g_m) + s^2 (C_1 C_3 R_1 g_m + C_1 C_3 + 2C_1 C_4 R_1 g_m + 2C_1 C_4 + 2C_3 C_4 R_3 g_m) + s (C_3 g_m + 2C_4 g_m)}$$

**10.667** **INVALID-ORDER-667** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 L_1 R_3 R_4 g_m s^3 + R_4 g_m + s^2 (C_1 C_3 R_1 R_3 R_4 g_m + C_1 L_1 R_4 g_m) + s (C_1 R_1 R_4 g_m + C_3 R_3 R_4 g_m)}{2C_1 C_3 C_4 L_1 R_3 R_4 g_m s^4 + 2g_m + s^3 (2C_1 C_3 C_4 R_1 R_3 R_4 g_m + 2C_1 C_3 C_4 R_3 R_4 + 2C_1 C_3 L_1 R_3 g_m + C_1 C_3 L_1 R_4 g_m + 2C_1 C_4 L_1 R_4 g_m) + s^2 (2C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_1 R_4 g_m + 2C_1 C_3 R_3 + C_1 C_3 R_4 + 2C_1 C_4 R_1 R_4 g_m + 2C_1 C_4 R_4 + 2C_1 L_1 g_m + 2C_3 C_4 R_3 R_4 g_m) + s (2C_1 R_1 \dots}$$

**10.668** **INVALID-ORDER-668** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 R_3 R_4 g_m s^4 + g_m + s^3 (C_1 C_3 C_4 R_1 R_3 R_4 g_m + C_1 C_3 L_1 R_3 g_m + C_1 C_4 L_1 R_4 g_m) + s^2 (C_1 C_3 R_1 R_3 g_m + C_1 C_4 R_1 R_4 g_m + C_1 L_1 g_m + C_3 C_4 R_3 R_4 g_m) + s (C_1 R_1 g_m + C_3 R_3 g_m + C_4 R_4 g_m)}{s^4 (2C_1 C_3 C_4 L_1 R_3 g_m + C_1 C_3 C_4 L_1 R_4 g_m) + s^3 (2C_1 C_3 C_4 R_1 R_3 g_m + C_1 C_3 C_4 R_1 R_4 g_m + 2C_1 C_3 C_4 R_3 + C_1 C_3 C_4 R_4 + C_1 C_3 L_1 g_m + 2C_1 C_4 L_1 g_m) + s^2 (C_1 C_3 R_1 g_m + C_1 C_3 + 2C_1 C_4 R_1 g_m + 2C_1 C_4 + 2C_3 C_4 R_3 g_m + C_3 C_4 R_4 g_m) + s (C_3 g_m + 2C_4 g_m)}$$

**10.669** **INVALID-ORDER-669** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_4 R_3 g_m s^5 + g_m + s^4 (C_1 C_3 C_4 L_4 R_1 R_3 g_m + C_1 C_4 L_1 L_4 g_m) + s^3 (C_1 C_3 L_1 R_3 g_m + C_1 C_4 L_4 R_1 g_m + C_3 C_4 L_4 R_3 g_m) + s^2 (C_1 C_3 R_1 R_3 g_m + C_1 L_1 g_m + C_4 L_4 g_m) + s (C_1 R_1 g_m + C_3 R_3 g_m)}{C_1 C_3 C_4 L_1 L_4 g_m s^5 + s^4 (2C_1 C_3 C_4 L_1 R_3 g_m + C_1 C_3 C_4 L_4 R_1 g_m + C_1 C_3 C_4 L_4) + s^3 (2C_1 C_3 C_4 R_1 R_3 g_m + 2C_1 C_3 C_4 R_3 + C_1 C_3 L_1 g_m + 2C_1 C_4 L_1 g_m + C_3 C_4 L_4 g_m) + s^2 (C_1 C_3 R_1 g_m + C_1 C_3 + 2C_1 C_4 R_1 g_m + 2C_1 C_4 + 2C_3 C_4 R_3 g_m) + s (C_3 g_m + 2C_4 g_m)}$$

**10.670** **INVALID-ORDER-670** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 L_1 L_4 R_3 g_m s^4 + L_4 g_m s + s^3 (C_1 C_3 L_4 R_1 R_3 g_m + C_1 L_1 L_4 g_m) + s^2 (C_1 L_4 R_1 g_m + C_3 L_4 R_3 g_m)}{2C_1 C_3 C_4 L_1 L_4 R_3 g_m s^5 + 2g_m + s^4 (2C_1 C_3 C_4 L_4 R_1 R_3 g_m + 2C_1 C_3 C_4 L_4 R_3 + C_1 C_3 L_1 L_4 g_m + 2C_1 C_4 L_1 L_4 g_m) + s^3 (2C_1 C_3 L_1 R_3 g_m + C_1 C_3 L_4 R_1 g_m + C_1 C_3 L_4 + 2C_1 C_4 L_4 R_1 g_m + 2C_1 C_4 L_4 + 2C_3 C_4 L_4 R_3 g_m) + s^2 (2C_1 C_3 R_1 R_3 g_m + 2C_1 C_3 R_3 + 2C_1 L_1 g_m + C_3 L_4 g_m \dots}$$

**10.671** **INVALID-ORDER-671** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_4 R_3 g_m s^5 + g_m + s^4 (C_1 C_3 C_4 L_1 R_3 R_4 g_m + C_1 C_3 C_4 L_4 R_1 R_3 g_m + C_1 C_4 L_1 L_4 g_m) + s^3 (C_1 C_3 C_4 R_1 R_3 R_4 g_m + C_1 C_3 L_1 R_3 g_m + C_1 C_4 L_1 R_4 g_m + C_1 C_4 L_4 R_1 g_m + C_3 C_4 L_4 R_3 g_m) + s^2 (C_1 C_3 R_1 R_3 g_m + C_1 C_4 R_1 R_4 g_m + C_1 L_1 g_m + C_3 C_4 R_3 R_4 g_m + C_1 \dots}{C_1 C_3 C_4 L_1 L_4 g_m s^5 + s^4 (2C_1 C_3 C_4 L_1 R_3 g_m + C_1 C_3 C_4 L_1 R_4 g_m + C_1 C_3 C_4 L_4 R_1 g_m + C_1 C_3 C_4 L_4) + s^3 (2C_1 C_3 C_4 R_1 R_3 g_m + C_1 C_3 C_4 R_1 R_4 g_m + 2C_1 C_3 C_4 R_3 + C_1 C_3 C_4 R_4 + C_1 C_3 L_1 g_m + 2C_1 C_4 L_1 g_m + C_3 C_4 L_4 g_m) + s^2 (C_1 C_3 R_1 g_m + C_1 C_3 + 2C_1 C_4 R_1 g_m + 2C_1 C_4 \dots}$$

**10.672** **INVALID-ORDER-672** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 L_1 L_4 R_3 R_4 g_m s^4 + L_4 R_4 g_m s + s^3 (C_1 C_3 L_4 R_1 R_3 R_4 g_m + C_1 L_1 L_4 R_4 g_m}{2C_1 C_3 C_4 L_1 L_4 R_3 R_4 g_m s^5 + 2R_4 g_m + s^4 (2C_1 C_3 C_4 L_4 R_1 R_3 R_4 g_m + 2C_1 C_3 C_4 L_4 R_3 R_4 + 2C_1 C_3 L_1 L_4 R_3 g_m + C_1 C_3 L_1 L_4 R_4 g_m + 2C_1 C_4 L_1 L_4 R_4 g_m) + s^3 (2C_1 C_3 L_1 R_3 R_4 g_m + 2C_1 C_3 L_4 R_1 R_3 g_m + C_1 C_3 L_4 R_1 R_4 g_m + 2C_1 C_3 L_4 R_3 + C_1 C_3 L_4 R_4 + 2C_1 C_4 L_4 R_1 R_4 g_m \dots}$$

**10.673** **INVALID-ORDER-673** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_4 R_3 R_4 g_m s^5 + R_4 g_m + s^4 (C_1 C_3 C_4 L_4 R_1 R_3 R_4 g_m + C_1 C_3 L_1 L_4 R_3 g_m + C_1 C_4 L_1 L_4 R_4 g_m) + s^3 (C_1 C_3 L_1 R_3 R_4 g_m + C_1 C_3 L_4 R_1 R_3 g_m + C_1 C_4 L_4 R_1 R_4 g_m + C_1 L_1 L_4 g_m + C_3 C_4 L_4 R_3 R_4 g_m) + \dots}{2g_m + s^5 (2C_1 C_3 C_4 L_1 L_4 R_3 g_m + C_1 C_3 C_4 L_1 L_4 R_4 g_m) + s^4 (2C_1 C_3 C_4 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_4 R_1 R_4 g_m + 2C_1 C_3 C_4 L_4 R_3 + C_1 C_3 C_4 L_4 R_4 + C_1 C_3 L_1 L_4 g_m + 2C_1 C_4 L_1 L_4 g_m) + s^3 (2C_1 C_3 L_1 R_3 g_m + C_1 C_3 L_1 R_4 g_m + C_1 C_3 L_4 R_1 g_m + C_1 C_3 L_4 + 2C_1 C_4 L_4 R_1 g_m + 2C_1 C_4 \dots}$$

**10.674** **INVALID-ORDER-674** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{R_4(C_4 L_4 s^2 + 1)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_4 R_3 R_4 g_m s^5 + R_4 g_m + s^4 (C_1 C_3 C_4 L_4 R_1 R_3 R_4 g_m + C_1 C_4 L_1 L_4 R_4 g_m) + s^3 (C_1 C_3 L_1 R_3 R_4 g_m + C_1}{2 g_m + s^5 (2 C_1 C_3 C_4 L_1 L_4 R_3 g_m + C_1 C_3 C_4 L_1 L_4 R_4 g_m) + s^4 (2 C_1 C_3 C_4 L_1 R_3 R_4 g_m + 2 C_1 C_3 C_4 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_4 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_4 R_3 + C_1 C_3 C_4 L_4 R_4 + 2 C_1 C_4 L_1 L_4 g_m) + s^3 (2 C_1 C_3 C_4 R_1 R_3 R_4 g_m + 2 C_1 C_3 C_4 R_3 R_4 + 2 C_1 C_3 L_1 R_3 g_m + C_1 C_3 L_1 R_4 g_m + 2}$$

**10.675** **INVALID-ORDER-675** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ R_4, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 L_1 L_3 R_4 g_m s^4 + C_1 C_3 L_3 R_1 R_4 g_m s^3 + C_1 R_1 R_4 g_m s + R_4 g_m + s^2 (C_1 L_1 R_4 g_m + C_3 L_3 R_4 g_m)}{2 C_1 C_3 L_1 L_3 g_m s^4 + 2 g_m + s^3 (C_1 C_3 L_1 R_4 g_m + 2 C_1 C_3 L_3 R_1 g_m + 2 C_1 C_3 L_3) + s^2 (C_1 C_3 R_1 R_4 g_m + C_1 C_3 R_4 + 2 C_1 L_1 g_m + 2 C_3 L_3 g_m) + s (2 C_1 R_1 g_m + 2 C_1 + C_3 R_4 g_m)}$$

**10.676** **INVALID-ORDER-676** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 L_1 L_3 g_m s^4 + C_1 C_3 L_3 R_1 g_m s^3 + C_1 R_1 g_m s + g_m + s^2 (C_1 L_1 g_m + C_3 L_3 g_m)}{2 C_1 C_3 C_4 L_1 L_3 g_m s^5 + s^4 (2 C_1 C_3 C_4 L_3 R_1 g_m + 2 C_1 C_3 C_4 L_3) + s^3 (C_1 C_3 L_1 g_m + 2 C_1 C_4 L_1 g_m + 2 C_3 C_4 L_3 g_m) + s^2 (C_1 C_3 R_1 g_m + C_1 C_3 + 2 C_1 C_4 R_1 g_m + 2 C_1 C_4) + s (C_3 g_m + 2 C_4 g_m)}$$

**10.677** **INVALID-ORDER-677** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 L_1 L_3 R_4 g_m s^4 + C_1 C_3 L_3 R_1 R_4 g_m s^3 + C_1 R_1 R_4 g_m s + R_4 g_m + s^2 (C_1 L_1 R_4 g_m + C_3 L_3 R_4 g_m)}{2 C_1 C_3 C_4 L_1 L_3 R_4 g_m s^5 + 2 g_m + s^4 (2 C_1 C_3 C_4 L_3 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_3 R_4 + 2 C_1 C_3 L_1 L_3 g_m) + s^3 (C_1 C_3 L_1 R_4 g_m + 2 C_1 C_3 L_3 R_1 g_m + 2 C_1 C_3 L_3 + 2 C_1 C_4 L_1 R_4 g_m + 2 C_3 C_4 L_3 R_4 g_m) + s^2 (C_1 C_3 R_1 R_4 g_m + C_1 C_3 R_4 + 2 C_1 C_4 R_1 R_4 g_m + 2 C_1 C_4 R_4 + 2 C_1 L_1 g_m + 2 C_3 L_3}$$

**10.678** **INVALID-ORDER-678** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 R_4 g_m s^5 + g_m + s^4 (C_1 C_3 C_4 L_3 R_1 R_4 g_m + C_1 C_3 L_1 L_3 g_m) + s^3 (C_1 C_3 L_3 R_1 g_m + C_1 C_4 L_1 R_4 g_m + C_3 C_4 L_3 R_4 g_m) + s^2 (C_1 C_4 R_1 R_4 g_m + C_1 L_1 g_m + C_3 L_3 g_m) + s (C_1 R_1 g_m + C_4 R_4 g_m)}{2 C_1 C_3 C_4 L_1 L_3 g_m s^5 + s^4 (C_1 C_3 C_4 L_1 R_4 g_m + 2 C_1 C_3 C_4 L_3 R_1 g_m + 2 C_1 C_3 C_4 L_3) + s^3 (C_1 C_3 C_4 R_1 R_4 g_m + C_1 C_3 C_4 R_4 + C_1 C_3 L_1 g_m + 2 C_1 C_4 L_1 g_m + 2 C_3 C_4 L_3 g_m) + s^2 (C_1 C_3 R_1 g_m + C_1 C_3 + 2 C_1 C_4 R_1 g_m + 2 C_1 C_4 + C_3 C_4 R_4 g_m) + s (C_3 g_m + 2 C_4 g_m)}$$

**10.679** **INVALID-ORDER-679** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 g_m s^6 + C_1 C_3 C_4 L_3 L_4 R_1 g_m s^5 + C_1 R_1 g_m s + g_m + s^4 (C_1 C_3 L_1 L_3 g_m + C_1 C_4 L_1 L_4 g_m + C_3 C_4 L_3 L_4 g_m) + s^3 (C_1 C_3 L_3 R_1 g_m + C_1 C_4 L_4 R_1 g_m) + s^2 (C_1 L_1 g_m + C_3 L_3 g_m + C_4 L_4 g_m)}{s^5 (2 C_1 C_3 C_4 L_1 L_3 g_m + C_1 C_3 C_4 L_1 L_4 g_m) + s^4 (2 C_1 C_3 C_4 L_3 R_1 g_m + 2 C_1 C_3 C_4 L_3 + C_1 C_3 C_4 L_4 R_1 g_m + C_1 C_3 C_4 L_4) + s^3 (C_1 C_3 L_1 g_m + 2 C_1 C_4 L_1 g_m + 2 C_3 C_4 L_3 g_m + C_3 C_4 L_4 g_m) + s^2 (C_1 C_3 R_1 g_m + C_1 C_3 + 2 C_1 C_4 R_1 g_m + 2 C_1 C_4) + s (C_3 g_m + 2 C_4 g_m)}$$

**10.680** **INVALID-ORDER-680** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 L_1 L_3 L_4 g_m s^5 + C_1 C_3 L_3 L_4 R_1 g_m s^4 + C_1 L_4 R_1 g_m s^2 + L_4 g_m s + s^3 (C_1 L_1 L_4 g_m + C_3 L_3 L_4 g_m)}{2 C_1 C_3 C_4 L_1 L_3 L_4 g_m s^6 + 2 g_m + s^5 (2 C_1 C_3 C_4 L_3 L_4 R_1 g_m + 2 C_1 C_3 C_4 L_3 L_4) + s^4 (2 C_1 C_3 L_1 L_3 g_m + C_1 C_3 L_1 L_4 g_m + 2 C_1 C_4 L_1 L_4 g_m + 2 C_3 C_4 L_3 L_4 g_m) + s^3 (2 C_1 C_3 L_3 R_1 g_m + 2 C_1 C_3 L_3 + C_1 C_3 L_4 R_1 g_m + C_1 C_3 L_4 + 2 C_1 C_4 L_4 R_1 g_m + 2 C_1 C_4 L_4) + s^2 (2 C_1 L_1 g_m + 2 C_3}$$

**10.681** **INVALID-ORDER-681** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 g_m s^6 + g_m + s^5 (C_1 C_3 C_4 L_1 L_3 R_4 g_m + C_1 C_3 C_4 L_3 L_4 R_1 g_m) + s^4 (C_1 C_3 C_4 L_3 R_1 R_4 g_m + C_1 C_3 L_1 L_3 g_m + C_1 C_4 L_1 L_4 g_m + C_3 C_4 L_3 L_4 g_m) + s^3 (C_1 C_3 L_3 R_1 g_m + C_1 C_4 L_1 R_4 g_m + C_1 C_4 L_4 R_1 g_m + C_3 C_4 L_3 R_4 g_m) + s^2 (C_1 C_4 R_1 R_4 g_m + C_1 L_1 g_m +}{s^5 (2 C_1 C_3 C_4 L_1 L_3 g_m + C_1 C_3 C_4 L_1 L_4 g_m) + s^4 (C_1 C_3 C_4 L_1 R_4 g_m + 2 C_1 C_3 C_4 L_3 R_1 g_m + 2 C_1 C_3 C_4 L_3 + C_1 C_3 C_4 L_4 R_1 g_m + C_1 C_3 C_4 L_4) + s^3 (C_1 C_3 C_4 R_1 R_4 g_m + C_1 C_3 C_4 R_4 + C_1 C_3 L_1 g_m + 2 C_1 C_4 L_1 g_m + 2 C_3 C_4 L_3 g_m + C_3 C_4 L_4 g_m) + s^2 (C_1 C_3 R_1 g_m + C_1 C_3 + 2 C_1 C_4}$$

**10.682** **INVALID-ORDER-682** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 L_1 L_3 L_4 R_4 g_m s^5 + C_1 C_3 L_3 L_4 R_1 R_4 g_m s^4 + C_1 L_4 R_1 R_4 g_m s^2 + L_4 R_4 g_m}{2 C_1 C_3 C_4 L_1 L_3 L_4 R_4 g_m s^6 + 2 R_4 g_m + s^5 (2 C_1 C_3 C_4 L_3 L_4 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_3 L_4 R_4 + 2 C_1 C_3 L_1 L_3 L_4 g_m) + s^4 (2 C_1 C_3 L_1 L_3 R_4 g_m + C_1 C_3 L_1 L_4 R_4 g_m + 2 C_1 C_3 L_3 L_4 R_1 g_m + 2 C_1 C_3 L_3 L_4 + 2 C_1 C_4 L_1 L_4 R_4 g_m + 2 C_3 C_4 L_3 L_4 R_4 g_m) + s^3 (2 C_1 C_3 L_3 R_1 R_4 g_m + 2 C_1 C_3 L_3}$$

**10.683** **INVALID-ORDER-683** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 R_4 g_m s^6 + R_4 g_m + s^5 (C_1 C_3 C_4 L_3 L_4 R_1 R_4 g_m + C_1 C_3 L_1 L_3 L_4 g_m) + s^4 (C_1 C_3 L_1 L_3 R_4 g_m + C_1 C_3 L_3 L_4 R_1 g_m + C_1 C_4 L_1 L_4 R_4 g_m + C_3 C_4 L_3 L_4 R_4 g_m) + s^3 (C_1 C_3 L_3 R_1 R_4 g_m + C_1 C_4 L_4 R_1 R}{2 C_1 C_3 C_4 L_1 L_3 L_4 g_m s^6 + 2 g_m + s^5 (C_1 C_3 C_4 L_1 L_4 R_4 g_m + 2 C_1 C_3 C_4 L_3 L_4 R_1 g_m + 2 C_1 C_3 C_4 L_3 L_4) + s^4 (C_1 C_3 C_4 L_4 R_1 R_4 g_m + C_1 C_3 C_4 L_4 R_4 + 2 C_1 C_3 L_1 L_3 g_m + C_1 C_3 L_1 L_4 g_m + 2 C_1 C_4 L_1 L_4 g_m + 2 C_3 C_4 L_3 L_4 g_m) + s^3 (C_1 C_3 L_1 R_4 g_m + 2 C_1 C_3 L_3 R_1 g_m + 2 C_1 C_3 L_3 + C}$$

**10.684** **INVALID-ORDER-684** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 R_4 g_m s^6 + C_1 C_3 C_4 L_3 L_4 R_1 R_4 g_m s^5 + C_1 R_1 R_4 g_m s + R_4 g_m + s^4 \left(C_1 C_3 L_1 L_3 R_4 g_m + C_1 C_4 L_1 \cdots \right.}{2 C_1 C_3 C_4 L_1 L_3 L_4 g_m s^6 + 2 g_m + s^5 \left(2 C_1 C_3 C_4 L_1 L_3 R_4 g_m + C_1 C_3 C_4 L_1 L_4 R_4 g_m + 2 C_1 C_3 C_4 L_3 L_4 R_1 g_m + 2 C_1 C_3 C_4 L_3 L_4\right) + s^4 \left(2 C_1 C_3 C_4 L_3 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_3 R_4 + C_1 C_3 C_4 L_4 R_1 R_4 g_m + C_1 C_3 C_4 L_4 R_4 + 2 C_1 C_3 L_1 L_3 g_m + 2 C_1 C_4 L_1 L_4 g_m + 2 C_3 C_4 L_3 L_4 g_m\right) + s^3 \left(\cdots\right.}$$

**10.685** **INVALID-ORDER-685** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ R_4, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_1 L_3 R_4 g_m s^3 + C_1 L_3 R_1 R_4 g_m s^2 + L_3 R_4 g_m s}{C_1 C_3 L_1 L_3 R_4 g_m s^4 + R_4 g_m + s^3 \left(C_1 C_3 L_3 R_1 R_4 g_m + C_1 C_3 L_3 R_4 + 2 C_1 L_1 L_3 g_m\right) + s^2 \left(C_1 L_1 R_4 g_m + 2 C_1 L_3 R_1 g_m + 2 C_1 L_3 + C_3 L_3 R_4 g_m\right) + s \left(C_1 R_1 R_4 g_m + C_1 R_4 + 2 L_3 g_m\right)}$$

**10.686** **INVALID-ORDER-686** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_1 L_3 g_m s^3 + C_1 L_3 R_1 g_m s^2 + L_3 g_m s}{g_m + s^4 \left(C_1 C_3 L_1 L_3 g_m + 2 C_1 C_4 L_1 L_3 g_m\right) + s^3 \left(C_1 C_3 L_3 R_1 g_m + C_1 C_3 L_3 + 2 C_1 C_4 L_3 R_1 g_m + 2 C_1 C_4 L_3\right) + s^2 \left(C_1 L_1 g_m + C_3 L_3 g_m + 2 C_4 L_3 g_m\right) + s \left(C_1 R_1 g_m + C_1\right)}$$

**10.687** **INVALID-ORDER-687** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_1 L_3 R_4 g_m s^3 + C_1 L_3 R_1 R_4 g_m s^2 + L_3 R_4 g_m s}{R_4 g_m + s^4 \left(C_1 C_3 L_1 L_3 R_4 g_m + 2 C_1 C_4 L_1 L_3 R_4 g_m\right) + s^3 \left(C_1 C_3 L_3 R_1 R_4 g_m + C_1 C_3 L_3 R_4 + 2 C_1 C_4 L_3 R_1 R_4 g_m + 2 C_1 C_4 L_3 R_4 + 2 C_1 L_1 L_3 g_m\right) + s^2 \left(C_1 L_1 R_4 g_m + 2 C_1 L_3 R_1 g_m + 2 C_1 L_3 + C_3 L_3 R_4 g_m + 2 C_4 L_3 R_4 g_m\right) + s \left(C_1 R_1 R_4 g_m + C_1 R_4 + 2 L_3 g_m\right)}$$

**10.688** **INVALID-ORDER-688** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_1 L_3 R_4 g_m s^4 + L_3 g_m s + s^3 \left(C_1 C_4 L_3 R_1 R_4 g_m + C_1 L_1 L_3 g_m\right) + s^2 \left(C_1 L_3 R_1 g_m + C_4 L_3 R_4 g_m\right)}{C_1 C_3 C_4 L_1 L_3 R_4 g_m s^5 + g_m + s^4 \left(C_1 C_3 C_4 L_3 R_1 R_4 g_m + C_1 C_3 C_4 L_3 R_4 + C_1 C_3 L_1 L_3 g_m + 2 C_1 C_4 L_1 L_3 g_m\right) + s^3 \left(C_1 C_3 L_3 R_1 g_m + C_1 C_3 L_3 + C_1 C_4 L_1 R_4 g_m + 2 C_1 C_4 L_3 R_1 g_m + 2 C_1 C_4 L_3 + C_3 C_4 L_3 R_4 g_m\right) + s^2 \left(C_1 C_4 R_1 R_4 g_m + C_1 C_4 R_4 + C_1 L_1 g_m + C_3 L_3 g_m + 2 C_4 L_3 \cdots\right.}$$

**10.689** **INVALID-ORDER-689** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_1 L_3 L_4 g_m s^5 + C_1 C_4 L_3 L_4 R_1 g_m s^4 + C_1 L_3 R_1 g_m s^2 + L_3 g_m s + s^3 \left(C_1 L_1 L_3 g_m + C_4 L_3 L_4 g_m\right)}{C_1 C_3 C_4 L_1 L_3 L_4 g_m s^6 + g_m + s^5 \left(C_1 C_3 C_4 L_3 L_4 R_1 g_m + C_1 C_3 C_4 L_3 L_4\right) + s^4 \left(C_1 C_3 L_1 L_3 g_m + 2 C_1 C_4 L_1 L_3 g_m + C_1 C_4 L_1 L_4 g_m + C_3 C_4 L_3 L_4 g_m\right) + s^3 \left(C_1 C_3 L_3 R_1 g_m + C_1 C_3 L_3 + 2 C_1 C_4 L_3 R_1 g_m + 2 C_1 C_4 L_3 + C_1 C_4 L_4 R_1 g_m + C_1 C_4 L_4\right) + s^2 \left(C_1 L_1 g_m + C_3 L_3 g_m + 2 C_4 \cdots\right.}$$

**10.690** **INVALID-ORDER-690** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_1 L_3 L_4 g_m s^3 + C_1 L_3 L_4 R_1 g_m s^2 + L_3 L_4 g_m s}{2 L_3 g_m + L_4 g_m + s^4 \left(C_1 C_3 L_1 L_3 L_4 g_m + 2 C_1 C_4 L_1 L_3 L_4 g_m\right) + s^3 \left(C_1 C_3 L_3 L_4 R_1 g_m + C_1 C_3 L_3 L_4 + 2 C_1 C_4 L_3 L_4 R_1 g_m + 2 C_1 C_4 L_3 L_4\right) + s^2 \left(2 C_1 L_1 L_3 g_m + C_1 L_1 L_4 g_m + C_3 L_3 L_4 g_m + 2 C_4 L_3 L_4 g_m\right) + s \left(2 C_1 L_3 R_1 g_m + 2 C_1 L_3 + C_1 L_4 R_1 g_m + C_1 L_4\right)}$$

**10.691** **INVALID-ORDER-691** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_1 L_3 L_4 g_m s^5 + L_3 g_m s + s^4 \left(C_1 C_4 L_1 L_3 R_4 g_m + C_1 C_4 L_3 L_4 R_1 g_m\right) + s^3 \left(C_1 C_4 L_3 R_1 R_4 g_m + C_1 L_1 L_3 g_m + C_4 L_3 L_4 g_m\right) + \cdots}{C_1 C_3 C_4 L_1 L_3 L_4 g_m s^6 + g_m + s^5 \left(C_1 C_3 C_4 L_1 L_3 R_4 g_m + C_1 C_3 C_4 L_3 L_4 R_1 g_m + C_1 C_3 C_4 L_3 L_4\right) + s^4 \left(C_1 C_3 C_4 L_3 R_1 R_4 g_m + C_1 C_3 C_4 L_3 R_4 + C_1 C_3 L_1 L_3 g_m + 2 C_1 C_4 L_1 L_3 g_m + C_1 C_4 L_1 L_4 g_m + C_3 C_4 L_3 L_4 g_m\right) + s^3 \left(C_1 C_3 L_3 R_1 g_m + C_1 C_3 L_3 + C_1 C_4 L_1 R_4 g_m + 2 C_1 C_4 L_3 R \cdots\right.}$$

**10.692** **INVALID-ORDER-692** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 L_1 L_3 L_4 R_4 g_m s^3 + C_1 L_3 L_4 R_1 R_4 g_m s^2 + L_3 L_4 R_4 g_m s}{2 L_3 R_4 g_m + L_4 R_4 g_m + s^4 \left(C_1 C_3 L_1 L_3 L_4 R_4 g_m + 2 C_1 C_4 L_1 L_3 L_4 R_4 g_m\right) + s^3 \left(C_1 C_3 L_3 L_4 R_1 R_4 g_m + C_1 C_3 L_3 L_4 R_4 + 2 C_1 C_4 L_3 L_4 R_1 R_4 g_m + 2 C_1 C_4 L_3 L_4 R_4 + 2 C_1 L_1 L_3 L_4 g_m\right) + s^2 \left(2 C_1 L_1 L_3 R_4 g_m + C_1 L_1 L_4 R_4 g_m + 2 C_1 L_3 L_4 R_1 g_m + 2 C_1 L_3 L_4 + C_3 L_3 L_4 R_4 g_m + 2 C_4 \cdots\right.}$$

**10.693** **INVALID-ORDER-693** $Z(s) = \left(L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty\right)$

$$H(s) = \frac{C_1 C_4 L_1 L_3 L_4 R_4 g_m s^5 + L_3 R_4 g_m s + s^4 \left(C_1 C_4 L_3 L_4 R_1 R_4 g_m + C_1 L_1 L_3 L_4 g_m\right) + s^3 \left(C_1 L \cdots\right.}{C_1 C_3 C_4 L_1 L_3 L_4 R_4 g_m s^6 + R_4 g_m + s^5 \left(C_1 C_3 C_4 L_3 L_4 R_1 R_4 g_m + C_1 C_3 C_4 L_3 L_4 R_4 + C_1 C_3 L_1 L_3 L_4 g_m + 2 C_1 C_4 L_1 L_3 L_4 g_m\right) + s^4 \left(C_1 C_3 L_1 L_3 R_4 g_m + C_1 C_3 L_3 L_4 R_1 g_m + C_1 C_3 L_3 L_4 + C_1 C_4 L_1 L_4 R_4 g_m + 2 C_1 C_4 L_3 L_4 R_1 g_m + 2 C_1 C_4 L_3 L_4 + C_3 C_4 L_3 L_4 R_4 g_m\right) + s^3 \left(C_1 C_3 \cdots\right.}$$

**10.694  INVALID-ORDER-694** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{R_4 \left( C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_4 L_1 L_3 L_4 R_4 g_m s^5 + C_1 C_4 L_3 L_4 R_1 R_4 g_m s^4 + C_1 L_3 R_1 R_4 g_m s^2 + L_3 R_4 g_m s + s^3}{C_1 C_3 C_4 L_1 L_3 L_4 R_4 g_m s^6 + R_4 g_m + s^5 \left( C_1 C_3 C_4 L_3 L_4 R_1 R_4 g_m + C_1 C_3 C_4 L_3 L_4 R_4 + 2 C_1 C_4 L_1 L_3 L_4 g_m \right) + s^4 \left( C_1 C_3 L_1 L_3 R_4 g_m + 2 C_1 C_4 L_1 L_3 R_4 g_m + C_1 C_4 L_1 L_4 R_4 g_m + 2 C_1 C_4 L_3 L_4 R_1 g_m + 2 C_1 C_4 L_3 L_4 + C_3 C_4 L_3 L_4 R_4 g_m \right) + s^3 \left( C_1 C_3 L_3 R_1 R_4 g_m + C_1 C_3 L_3 R_4 + 2 C_1 \dots \right)}$

**10.695  INVALID-ORDER-695** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ R_4, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 L_1 L_3 R_4 g_m s^4 + R_4 g_m + s^3 \left( C_1 C_3 L_1 R_3 R_4 g_m + C_1 C_3 L_3 R_1 R_4 g_m \right) + s^2 \left( C_1 C_3 R_1 R_3 R_4 g_m + C_1 L_1 R_4 g_m + C_3 L_3 R_4 g_m \right) + s \left( C_1 R_1 R_4 g_m + C_3 R_3 R_4 g_m \right)}{2 C_1 C_3 L_1 L_3 g_m s^4 + 2 g_m + s^3 \left( 2 C_1 C_3 L_1 R_3 g_m + C_1 C_3 L_1 R_4 g_m + 2 C_1 C_3 L_3 R_1 g_m + 2 C_1 C_3 L_3 \right) + s^2 \left( 2 C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_1 R_4 g_m + 2 C_1 C_3 R_3 + C_1 C_3 R_4 + 2 C_1 L_1 g_m + 2 C_3 L_3 g_m \right) + s \left( 2 C_1 R_1 g_m + 2 C_1 + 2 C_3 R_3 g_m + C_3 R_4 g_m \right)}$

**10.696  INVALID-ORDER-696** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 L_1 L_3 g_m s^4 + g_m + s^3 \left( C_1 C_3 L_1 R_3 g_m + C_1 C_3 L_3 R_1 g_m \right) + s^2 \left( C_1 C_3 R_1 R_3 g_m + C_1 L_1 g_m + C_3 L_3 g_m \right) + s \left( C_1 R_1 g_m + C_3 R_3 g_m \right)}{2 C_1 C_3 C_4 L_1 L_3 g_m s^5 + s^4 \left( 2 C_1 C_3 C_4 L_1 R_3 g_m + 2 C_1 C_3 C_4 L_3 R_1 g_m + 2 C_1 C_3 C_4 L_3 \right) + s^3 \left( 2 C_1 C_3 C_4 R_1 R_3 g_m + 2 C_1 C_3 C_4 R_3 + C_1 C_3 L_1 g_m + 2 C_1 C_4 L_1 g_m + 2 C_3 C_4 L_3 g_m \right) + s^2 \left( C_1 C_3 R_1 g_m + C_1 C_3 + 2 C_1 C_4 R_1 g_m + 2 C_1 C_4 + 2 C_3 C_4 R_3 g_m \right) + s \left( C_3 g_m + 2 C_4 g_m \right)}$

**10.697  INVALID-ORDER-697** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 L_1 L_3 R_4 g_m s^4 + R_4 g_m + s^3 \left( C_1 C_3 L_1 R_3 R_4 g_m + C_1 C_3 L_3 R_1 R_4 g_m \right) + s^2 \left( C_1 C_3 R_1 R_3 R_4 g_m + C_1 L_1 R_4 g_m + C_\dots \right)}{2 C_1 C_3 C_4 L_1 L_3 R_4 g_m s^5 + 2 g_m + s^4 \left( 2 C_1 C_3 C_4 L_1 R_3 R_4 g_m + 2 C_1 C_3 C_4 L_3 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_3 R_4 + 2 C_1 C_3 L_1 L_3 g_m \right) + s^3 \left( 2 C_1 C_3 C_4 R_1 R_3 R_4 g_m + 2 C_1 C_3 C_4 R_3 R_4 + 2 C_1 C_3 L_1 R_3 g_m + C_1 C_3 L_1 R_4 g_m + 2 C_1 C_3 L_3 R_1 g_m + 2 C_1 C_3 L_3 + 2 C_1 C_4 L_1 R_4 g_m + 2 C_3 C_4 L_3 R_4 g_m \right) + \dots}$

**10.698  INVALID-ORDER-698** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 R_4 g_m s^5 + g_m + s^4 \left( C_1 C_3 C_4 L_1 R_3 R_4 g_m + C_1 C_3 C_4 L_3 R_1 R_4 g_m + C_1 C_3 L_1 L_3 g_m \right) + s^3 \left( C_1 C_3 C_4 R_1 R_3 R_4 g_m + C_1 C_3 L_1 R_3 g_m + C_1 C_3 L_3 R_1 g_m + C_1 C_4 L_1 R_4 g_m + C_3 C_4 L_3 R_4 g_m \right) + s^2 \left( C_1 C_3 R_1 R_3 g_m + C_1 C_4 R_1 R_4 g_m + C_1 L_1 g_m + C_3 C_4 R_3 R_4 g_m + \dots \right)}{2 C_1 C_3 C_4 L_1 L_3 g_m s^5 + s^4 \left( 2 C_1 C_3 C_4 L_1 R_3 g_m + C_1 C_3 C_4 L_1 R_4 g_m + 2 C_1 C_3 C_4 L_3 R_1 g_m + 2 C_1 C_3 C_4 L_3 \right) + s^3 \left( 2 C_1 C_3 C_4 R_1 R_3 g_m + C_1 C_3 C_4 R_1 R_4 g_m + 2 C_1 C_3 C_4 R_3 + C_1 C_3 C_4 R_4 + C_1 C_3 L_1 g_m + 2 C_1 C_4 L_1 g_m + 2 C_3 C_4 L_3 g_m \right) + s^2 \left( C_1 C_3 R_1 g_m + C_1 C_3 + 2 C_1 C_4 R_1 g_m + 2 C_\dots \right)}$

**10.699  INVALID-ORDER-699** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 g_m s^6 + g_m + s^5 \left( C_1 C_3 C_4 L_1 L_4 R_3 g_m + C_1 C_3 C_4 L_3 L_4 R_1 g_m \right) + s^4 \left( C_1 C_3 C_4 L_4 R_1 R_3 g_m + C_1 C_3 L_1 L_3 g_m + C_1 C_4 L_1 L_4 g_m + C_3 C_4 L_3 L_4 g_m \right) + s^3 \left( C_1 C_3 L_1 R_3 g_m + C_1 C_3 L_3 R_1 g_m + C_1 C_4 L_4 R_1 g_m + C_3 C_4 L_4 R_3 g_m \right) + s^2 \left( C_1 C_3 R_1 R_3 g_m + C_1 L_1 g_m + \dots \right)}{s^5 \left( 2 C_1 C_3 C_4 L_1 L_3 g_m + C_1 C_3 C_4 L_1 L_4 g_m \right) + s^4 \left( 2 C_1 C_3 C_4 L_1 R_3 g_m + 2 C_1 C_3 C_4 L_3 R_1 g_m + 2 C_1 C_3 C_4 L_3 + C_1 C_3 C_4 L_4 R_1 g_m + C_1 C_3 C_4 L_4 \right) + s^3 \left( 2 C_1 C_3 C_4 R_1 R_3 g_m + 2 C_1 C_3 C_4 R_3 + C_1 C_3 L_1 g_m + 2 C_1 C_4 L_1 g_m + 2 C_3 C_4 L_3 g_m + C_3 C_4 L_4 g_m \right) + s^2 \left( C_1 C_3 R_1 g_m + C_1 C_3 + 2 C_\dots \right)}$

**10.700  INVALID-ORDER-700** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 L_1 L_3 L_4 g_m s^5 + L_4 g_m s + s^4 \left( C_1 C_3 L_1 L_4 R_3 g_m + C_1 C_3 L_3 L_4 R_1 g_m \right) + s^3 \left( C_1 C_3 L_4 R_1 R_3 g_m + C_1 L_1 L_4 g_m + C_\dots \right)}{2 C_1 C_3 C_4 L_1 L_3 L_4 g_m s^6 + 2 g_m + s^5 \left( 2 C_1 C_3 C_4 L_1 L_4 R_3 g_m + 2 C_1 C_3 C_4 L_3 L_4 R_1 g_m + 2 C_1 C_3 C_4 L_3 L_4 \right) + s^4 \left( 2 C_1 C_3 C_4 L_4 R_1 R_3 g_m + 2 C_1 C_3 C_4 L_4 R_3 + 2 C_1 C_3 L_1 L_3 g_m + C_1 C_3 L_1 L_4 g_m + 2 C_1 C_4 L_1 L_4 g_m + 2 C_3 C_4 L_3 L_4 g_m \right) + s^3 \left( 2 C_1 C_3 L_1 R_3 g_m + 2 C_1 C_3 L_3 R_1 g_m + 2 C_1 C_3 L_3 \dots \right)}$

**10.701  INVALID-ORDER-701** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 g_m s^6 + g_m + s^5 \left( C_1 C_3 C_4 L_1 L_3 R_4 g_m + C_1 C_3 C_4 L_1 L_4 R_3 g_m + C_1 C_3 C_4 L_3 L_4 R_1 g_m \right) + s^4 \left( C_1 C_3 C_4 L_1 R_3 R_4 g_m + C_1 C_3 C_4 L_3 R_1 R_4 g_m + C_1 C_3 C_4 L_4 R_1 R_3 g_m + C_1 C_3 L_1 L_3 g_m + C_1 C_4 L_1 L_4 g_m + C_3 C_4 L_3 L_4 g_m \right) + s^3 \left( C_1 C_3 C_4 R_1 R_3 R_4 g_m + C_1 C_3 L_1 R_3 g_m + \dots \right)}{s^5 \left( 2 C_1 C_3 C_4 L_1 L_3 g_m + C_1 C_3 C_4 L_1 L_4 g_m \right) + s^4 \left( 2 C_1 C_3 C_4 L_1 R_3 g_m + C_1 C_3 C_4 L_1 R_4 g_m + 2 C_1 C_3 C_4 L_3 R_1 g_m + 2 C_1 C_3 C_4 L_3 + C_1 C_3 C_4 L_4 R_1 g_m + C_1 C_3 C_4 L_4 \right) + s^3 \left( 2 C_1 C_3 C_4 R_1 R_3 g_m + C_1 C_3 C_4 R_1 R_4 g_m + 2 C_1 C_3 C_4 R_3 + C_1 C_3 \dots \right)}$

**10.702  INVALID-ORDER-702** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$H(s) = \frac{\dots}{2 C_1 C_3 C_4 L_1 L_3 L_4 R_4 g_m s^6 + 2 R_4 g_m + s^5 \left( 2 C_1 C_3 C_4 L_1 L_4 R_3 R_4 g_m + 2 C_1 C_3 C_4 L_3 L_4 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_3 L_4 R_4 + 2 C_1 C_3 L_1 L_3 L_4 g_m \right) + s^4 \left( 2 C_1 C_3 C_4 L_4 R_1 R_3 R_4 g_m + 2 C_1 C_3 C_4 L_4 R_3 R_4 + 2 C_1 C_3 L_1 L_3 R_4 g_m + 2 C_1 C_3 L_1 L_4 R_3 g_m + C_1 C_3 L_1 L_4 R_4 g_m + 2 C_1 C_3 L_3 L_4 R_1 g_m + \dots \right)}$

**10.703  INVALID-ORDER-703** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 R_4 g_m s^6 + R_4 g_m + s^5 \left( C_1 C_3 C_4 L_1 L_4 R_3 R_4 g_m + C_1 C_3 C_4 L_3 L_4 R_1 R_4 g_m + C_1 C_3 L_1 L_3 g_m \right) + s^4 \left( C_1 C_3 C_4 L_4 R_1 R_3 R_4 g_m + C_1 C_3 L_1 L_3 R_4 g_m + C_1 C_3 L_1 L_4 R_3 g_m + C_1 C_3 L_3 L_4 R_1 g_m + C_1 C_4 L_1 L_4 R_4 g_m + \dots \right)}{2 C_1 C_3 C_4 L_1 L_3 L_4 g_m s^6 + 2 g_m + s^5 \left( 2 C_1 C_3 C_4 L_1 L_4 R_3 g_m + C_1 C_3 C_4 L_1 L_4 R_4 g_m + 2 C_1 C_3 C_4 L_3 L_4 R_1 g_m + 2 C_1 C_3 C_4 L_3 L_4 \right) + s^4 \left( 2 C_1 C_3 C_4 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_4 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_4 R_3 + C_1 C_3 C_4 L_4 R_4 + 2 C_1 C_3 L_1 L_3 g_m + C_1 C_3 L_1 L_4 g_m + 2 C_1 C_4 L_1 L_4 g_m + 2 C_3 C_\dots \right)}$

**10.704** **INVALID-ORDER-704** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{R_4(C_4 L_4 s^2 + 1)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 R_4 g_m s^6 + R_4 g_m + s^5 (C_1 C_3 C_4 L_1 L_4 R_3 R_4 g_m}{2 C_1 C_3 C_4 L_1 L_3 L_4 g_m s^6 + 2 g_m + s^5 (2 C_1 C_3 C_4 L_1 L_3 R_4 g_m + 2 C_1 C_3 C_4 L_1 L_4 R_3 g_m + C_1 C_3 C_4 L_1 L_4 R_4 g_m + 2 C_1 C_3 C_4 L_3 L_4 R_1 g_m + 2 C_1 C_3 C_4 L_3 L_4) + s^4 (2 C_1 C_3 C_4 L_1 R_3 R_4 g_m + 2 C_1 C_3 C_4 L_3 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_3 R_4 + 2 C_1 C_3 C_4 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_4 R_1 R_4 g_m + 2 C_1}$

**10.705** **INVALID-ORDER-705** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ R_4, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 L_1 L_3 R_3 R_4 g_m s^3 + C_1 L_3 R_1 R_3 R_4 g_m s^2 + L_3 R_3 R_4 g_m s}{C_1 C_3 L_1 L_3 R_3 R_4 g_m s^4 + R_3 R_4 g_m + s^3 (C_1 C_3 L_3 R_1 R_3 R_4 g_m + C_1 C_3 L_3 R_3 R_4 + 2 C_1 L_1 L_3 R_3 g_m + C_1 L_1 L_3 R_4 g_m) + s^2 (C_1 L_1 R_3 R_4 g_m + 2 C_1 L_3 R_1 R_3 g_m + C_1 L_3 R_1 R_4 g_m + 2 C_1 L_3 R_3 + C_1 L_3 R_4 + C_3 L_3 R_3 R_4 g_m) + s (C_1 R_1 R_3 R_4 g_m + C_1 R_3 R_4 + 2 L_3 R_3 g_m + L_3 R_4 g_m)}$

**10.706** **INVALID-ORDER-706** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 L_1 L_3 R_3 g_m s^3 + C_1 L_3 R_1 R_3 g_m s^2 + L_3 R_3 g_m s}{R_3 g_m + s^4 (C_1 C_3 L_1 L_3 R_3 g_m + 2 C_1 C_4 L_1 L_3 R_3 g_m) + s^3 (C_1 C_3 L_3 R_1 R_3 g_m + C_1 C_3 L_3 R_3 + 2 C_1 C_4 L_3 R_1 R_3 g_m + 2 C_1 C_4 L_3 R_3 + C_1 L_1 L_3 g_m) + s^2 (C_1 L_1 R_3 g_m + C_1 L_3 R_1 g_m + C_1 L_3 + C_3 L_3 R_3 g_m + 2 C_4 L_3 R_3 g_m) + s (C_1 R_1 R_3 g_m + C_1 R_3 + L_3 g_m)}$

**10.707** **INVALID-ORDER-707** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 L_1 L_3 R_3 R_4 g_m s^3 + C_1 L_3 R_1 R_3 R_4 g_m s^2 + L_3 R_3 R_4 g_m s}{R_3 R_4 g_m + s^4 (C_1 C_3 L_1 L_3 R_3 R_4 g_m + 2 C_1 C_4 L_1 L_3 R_3 R_4 g_m) + s^3 (C_1 C_3 L_3 R_1 R_3 R_4 g_m + C_1 C_3 L_3 R_3 R_4 + 2 C_1 C_4 L_3 R_1 R_3 R_4 g_m + 2 C_1 C_4 L_3 R_3 R_4 + 2 C_1 L_1 L_3 R_3 g_m + C_1 L_1 L_3 R_4 g_m) + s^2 (C_1 L_1 R_3 R_4 g_m + 2 C_1 L_3 R_1 R_3 g_m + C_1 L_3 R_1 R_4 g_m + 2 C_1 L_3 R_3 + C_1 L_3 R_4 + C_3 L}$

**10.708** **INVALID-ORDER-708** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_4 L_1 L_3 R_3 R_4 g_m s^4 + L_3 R_3 g_m s + s^3 (C_1 C_4 L_3 R_1 R_3 R_4 g_m + C_1 L_1 L_3 R_3 g_m) + s^2 (C_1 L}{C_1 C_3 C_4 L_1 L_3 R_3 R_4 g_m s^5 + R_3 g_m + s^4 (C_1 C_3 C_4 L_3 R_1 R_3 R_4 g_m + C_1 C_3 C_4 L_3 R_3 R_4 + C_1 C_3 L_1 L_3 R_3 g_m + 2 C_1 C_4 L_1 L_3 R_3 g_m + C_1 C_4 L_1 L_3 R_4 g_m) + s^3 (C_1 C_3 L_3 R_1 R_3 g_m + C_1 C_3 L_3 R_3 + C_1 C_4 L_1 R_3 R_4 g_m + 2 C_1 C_4 L_3 R_1 R_3 g_m + C_1 C_4 L_3 R_1 R_4 g_m + 2 C_1 C_4 L_3 R_3 + C_1 C_4 L_3}$

**10.709** **INVALID-ORDER-709** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_4 L_1 L_3 L_4 R_3 g_m s^5 + C_1 C_4 L_3 L_4 R_1 R_3 g_m s^4 + C_1 L_3 R_1 R_3 g_m s^2 + L_3 R_3 g_m s + s^3 (C_1}{C_1 C_3 C_4 L_1 L_3 L_4 R_3 g_m s^6 + R_3 g_m + s^5 (C_1 C_3 C_4 L_3 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_3 L_4 R_3 + C_1 C_4 L_1 L_3 L_4 g_m) + s^4 (C_1 C_3 L_1 L_3 R_3 g_m + 2 C_1 C_4 L_1 L_3 R_3 g_m + C_1 C_4 L_1 L_4 R_3 g_m + C_1 C_4 L_3 L_4 R_1 g_m + C_1 C_4 L_3 L_4 + C_3 L_4 R_3 g_m) + s^3 (C_1 C_3 L_3 R_1 R_3 g_m + C_1 C_3 L_3 R_3 + 2 C_1 C_4 L}$

**10.710** **INVALID-ORDER-710** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 L_1 L_3 L_4 R_3 g_m s^3 + C_1 L_3 L_4 R_1 R_3 g_m s^2 + L_3 L_4 R_3 g_m s}{2 L_3 R_3 g_m + L_4 R_3 g_m + s^4 (C_1 C_3 L_1 L_3 L_4 R_3 g_m + 2 C_1 C_4 L_1 L_3 L_4 R_3 g_m) + s^3 (C_1 C_3 L_3 L_4 R_1 R_3 g_m + C_1 C_3 L_3 L_4 R_3 + 2 C_1 C_4 L_3 L_4 R_1 R_3 g_m + 2 C_1 C_4 L_3 L_4 R_3 + C_1 L_1 L_3 L_4 g_m) + s^2 (2 C_1 L_1 L_3 R_3 g_m + C_1 L_1 L_4 R_3 g_m + C_1 L_3 L_4 R_1 g_m + C_1 L_3 L_4 + C_3 L_3 L_4 R_3 g_m + 2 C_4 L}$

**10.711** **INVALID-ORDER-711** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_4 L_1}{C_1 C_3 C_4 L_1 L_3 L_4 R_3 g_m s^6 + R_3 g_m + s^5 (C_1 C_3 C_4 L_1 L_3 R_3 R_4 g_m + C_1 C_3 C_4 L_3 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_3 L_4 R_3 + C_1 C_4 L_1 L_3 L_4 g_m) + s^4 (C_1 C_3 C_4 L_3 R_1 R_3 R_4 g_m + C_1 C_3 C_4 L_3 R_3 R_4 + C_1 C_3 L_1 L_3 R_3 g_m + 2 C_1 C_4 L_1 L_3 R_3 g_m + C_1 C_4 L_1 L_4 R_3 g_m + C_1 C_4 L_3}$

**10.712** **INVALID-ORDER-712** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 L_1 L_3 L_4 R_3 R_4 g_m s^3 + C_1 L_3 L_4 R_1 R_3 R_4 g_m s^2 + L_3 L_4 R_3 R}{2 L_3 R_3 R_4 g_m + L_4 R_3 R_4 g_m + s^4 (C_1 C_3 L_1 L_3 L_4 R_3 R_4 g_m + 2 C_1 C_4 L_1 L_3 L_4 R_3 R_4 g_m) + s^3 (C_1 C_3 L_3 L_4 R_1 R_3 R_4 g_m + C_1 C_3 L_3 L_4 R_3 R_4 + 2 C_1 C_4 L_3 L_4 R_1 R_3 R_4 g_m + 2 C_1 C_4 L_3 L_4 R_3 R_4 + 2 C_1 L_1 L_3 L_4 R_3 g_m + C_1 L_1 L_3 L_4 R_4 g_m) + s^2 (2 C_1 L_1 L_3 R_3 R_4 g_m + C_1 L_1 L_4 R_3 R_4 g_m +}$

**10.713** **INVALID-ORDER-713** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$H(s) = \frac{}{C_1 C_3 C_4 L_1 L_3 L_4 R_3 R_4 g_m s^6 + R_3 R_4 g_m + s^5 (C_1 C_3 C_4 L_3 L_4 R_1 R_3 R_4 g_m + C_1 C_3 C_4 L_3 L_4 R_3 R_4 + C_1 C_3 L_1 L_3 L_4 R_3 g_m + 2 C_1 C_4 L_1 L_3 L_4 R_3 g_m + C_1 C_4 L_1 L_3 L_4 R_4 g_m) + s^4 (C_1 C_3 L_1 L_3 R_3 R_4 g_m + C_1 C_3 L_3 L_4 R_1 R_3 g_m + C_1 C_3 L_3 L_4 R_3 + C_1 C_4 L_1 L_4 R_3 R_4 g_m + 2 C_1 C_4 L_3 L_4 R_1}$

**10.714  INVALID-ORDER-714** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$H(s) = \frac{}{C_1 C_3 C_4 L_1 L_3 L_4 R_3 R_4 g_m s^6 + R_3 R_4 g_m + s^5\left(C_1 C_3 C_4 L_3 L_4 R_1 R_3 R_4 g_m + C_1 C_3 C_4 L_3 L_4 R_3 R_4 + 2 C_1 C_4 L_1 L_3 L_4 R_3 g_m + C_1 C_4 L_1 L_3 L_4 R_4 g_m\right) + s^4\left(C_1 C_3 L_1 L_3 R_3 R_4 g_m + 2 C_1 C_4 L_1 L_3 R_3 R_4 g_m + C_1 C_4 L_1 L_4 R_3 R_4 g_m + 2 C_1 C_4 L_3 L_4 R_1 R_3 g_m + C_1 C_4 L_3 L_4 R_1 R_4 g_m + 2 C_1 C_4 \dots}$

**10.715  INVALID-ORDER-715** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ R_4, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 L_1 L_3 R_3 R_4 g_m s^4 + R_3 R_4 g_m + s^3\left(C_1 C_3 L_3 R_1 R_3 R_4 g_m + C_1 L_1 L_3 R_4 g_m\right) + s^2\left(C_1 L_1 R_3 R_4 g_m + C_1 L_3 R_1 R_4 g_m + C_3 L_3 R_3 R_4 g_m\right) + s\left(C_1 R_1 R_3 R_4 g_m + L_3 R_4 g_m\right)}{2 R_3 g_m + R_4 g_m + s^4\left(2 C_1 C_3 L_1 L_3 R_3 g_m + C_1 C_3 L_1 L_3 R_4 g_m\right) + s^3\left(2 C_1 C_3 L_3 R_1 R_3 g_m + C_1 C_3 L_3 R_1 R_4 g_m + 2 C_1 C_3 L_3 R_3 + C_1 C_3 L_3 R_4 + 2 C_1 L_1 L_3 g_m\right) + s^2\left(2 C_1 L_1 R_3 g_m + C_1 L_1 R_4 g_m + 2 C_1 L_3 R_1 g_m + 2 C_1 L_3 + 2 C_3 L_3 R_3 g_m + C_3 L_3 R_4 g_m\right) + s\left(2 C_1 R_1 R_3 g_m + C_1 R_1 R_\dots\right)}$

**10.716  INVALID-ORDER-716** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 L_1 L_3 R_3 g_m s^4 + R_3 g_m + s^3\left(C_1 C_3 L_3 R_1 R_3 g_m + C_1 L_1 L_3 g_m\right) + s^2\left(C_1 L_1 R_3 g_m + C_1 L_3 R_1 g_m + C_3 L_3 R_3 g_m\right) + s\left(C_1 R_1 R_3 g_m + L_3 g_m\right)}{2 C_1 C_3 C_4 L_1 L_3 R_3 g_m s^5 + g_m + s^4\left(2 C_1 C_3 C_4 L_3 R_1 R_3 g_m + 2 C_1 C_3 C_4 L_3 R_3 + C_1 C_3 L_1 L_3 g_m + 2 C_1 C_4 L_1 L_3 g_m\right) + s^3\left(C_1 C_3 L_3 R_1 g_m + C_1 C_3 L_3 + 2 C_1 C_4 L_1 R_3 g_m + 2 C_1 C_4 L_3 R_1 g_m + 2 C_1 C_4 L_3 + 2 C_3 C_4 L_3 R_3 g_m\right) + s^2\left(2 C_1 C_4 R_1 R_3 g_m + 2 C_1 C_4 R_3 + C_1 L_1 g_m + C_3 L_3 g_m + \dots\right)}$

**10.717  INVALID-ORDER-717** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 L_1 L_3 R_3 R_4 g_m s^4 + R_3 R_4 g_m + s^3\left(C_1 C_3 L_3 R_1 R_3 R_4 g_m + C_1 L_1 L_3 R_4 g_m\right) + \dots}{2 C_1 C_3 C_4 L_1 L_3 R_3 R_4 g_m s^5 + 2 R_3 g_m + R_4 g_m + s^4\left(2 C_1 C_3 C_4 L_3 R_1 R_3 R_4 g_m + 2 C_1 C_3 C_4 L_3 R_3 R_4 + 2 C_1 C_3 L_1 L_3 R_3 g_m + C_1 C_3 L_1 L_3 R_4 g_m + 2 C_1 C_4 L_1 L_3 R_4 g_m\right) + s^3\left(2 C_1 C_3 L_3 R_1 R_3 g_m + C_1 C_3 L_3 R_1 R_4 g_m + 2 C_1 C_3 L_3 R_3 + C_1 C_3 L_3 R_4 + 2 C_1 C_4 L_1 R_3 R_4 g_m + 2 C_1 C_4 L_3 R_1 \dots\right)}$

**10.718  INVALID-ORDER-718** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 R_3 R_4 g_m s^5 + R_3 g_m + s^4\left(C_1 C_3 C_4 L_3 R_1 R_3 R_4 g_m + C_1 C_3 L_1 L_3 R_3 g_m + C_1 C_4 L_1 L_3 R_4 g_m\right) + s^3\left(C_1 C_3 L_3 R_1 R_3 g_m + C_1 C_4 L_1 R_3 R_4 g_m + C_1 C_4 L_3 R_1 R_4 g_m + C_1 L_1 L_3 g_m + C_3 C_4 L_3 R_3 R_4 g_m\right) + \dots}{g_m + s^5\left(2 C_1 C_3 C_4 L_1 L_3 R_3 g_m + C_1 C_3 C_4 L_1 L_3 R_4 g_m\right) + s^4\left(2 C_1 C_3 C_4 L_3 R_1 R_3 g_m + C_1 C_3 C_4 L_3 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_3 R_3 + C_1 C_3 C_4 L_3 R_4 + C_1 C_3 L_1 L_3 g_m + 2 C_1 C_4 L_1 L_3 g_m\right) + s^3\left(C_1 C_3 L_3 R_1 g_m + C_1 C_3 L_3 + 2 C_1 C_4 L_1 R_3 g_m + C_1 C_4 L_1 R_4 g_m + 2 C_1 C_4 L_3 R_1 g_m + 2 C_1 C_\dots\right)}$

**10.719  INVALID-ORDER-719** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 R_3 g_m s^6 + R_3 g_m + s^5\left(C_1 C_3 C_4 L_3 L_4 R_1 R_3 g_m + C_1 C_4 L_1 L_3 L_4 g_m\right) + s^4\left(C_1 C_3 L_1 L_3 R_3 g_m + C_1 C_4 L_1 L_4 R_3 g_m + C_1 C_4 L_3 L_4 R_1 g_m + C_3 C_4 L_3 L_4 R_3 g_m\right) + s^3\left(C_1 C_3 L_3 R_1 R_3 g_m + C_1 C_4 L_4 R_1 R_\dots\right)}{C_1 C_3 C_4 L_1 L_3 L_4 g_m s^6 + g_m + s^5\left(2 C_1 C_3 C_4 L_1 L_3 R_3 g_m + C_1 C_3 C_4 L_3 L_4 R_1 g_m + C_1 C_3 C_4 L_3 L_4\right) + s^4\left(2 C_1 C_3 C_4 L_3 R_1 R_3 g_m + 2 C_1 C_3 C_4 L_3 R_3 + C_1 C_3 L_1 L_3 g_m + 2 C_1 C_4 L_1 L_3 g_m + C_1 C_4 L_1 L_4 g_m + C_3 C_4 L_3 L_4 g_m\right) + s^3\left(C_1 C_3 L_3 R_1 g_m + C_1 C_3 L_3 + 2 C_1 C_4 L_1 R_3 g_m + 2 C_1 C_\dots\right)}$

**10.720  INVALID-ORDER-720** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 L_1 L_3 L_4 R_3 g_m s^5 + L_4 R_3 g_m s + s^4\left(C_1 C_3 L_3 L_4 R_1 R_3 g_m + C_1 L_1 L_3 L_4 g_m\right) + \dots}{2 C_1 C_3 C_4 L_1 L_3 L_4 R_3 g_m s^6 + 2 R_3 g_m + s^5\left(2 C_1 C_3 C_4 L_3 L_4 R_1 R_3 g_m + 2 C_1 C_3 C_4 L_3 L_4 R_3 + C_1 C_3 L_1 L_3 L_4 g_m + 2 C_1 C_4 L_1 L_3 L_4 g_m\right) + s^4\left(2 C_1 C_3 L_1 L_3 R_3 g_m + C_1 C_3 L_3 L_4 R_1 g_m + C_1 C_3 L_3 L_4 + 2 C_1 C_4 L_1 L_4 R_3 g_m + 2 C_1 C_4 L_3 L_4 R_1 g_m + 2 C_1 C_4 L_3 L_4 + 2 C_3 C_4 L_3 L_4 R_3 g_m\right) + s\dots}$

**10.721  INVALID-ORDER-721** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 R_3 g_m s^6 + R_3 g_m + s^5\left(C_1 C_3 C_4 L_1 L_3 R_3 R_4 g_m + C_1 C_3 C_4 L_3 L_4 R_1 R_3 g_m + C_1 C_4 L_1 L_3 L_4 g_m\right) + s^4\left(C_1 C_3 C_4 L_3 R_1 R_3 R_4 g_m + C_1 C_3 L_1 L_3 R_3 g_m + C_1 C_4 L_1 L_3 R_4 g_m + C_1 C_4 L_1 L_4 R_3 g_m + C_1 C_4 L_3 L_4 R_1 g_m + C_3 C_4 L_\dots\right)}{C_1 C_3 C_4 L_1 L_3 L_4 g_m s^6 + g_m + s^5\left(2 C_1 C_3 C_4 L_1 L_3 R_3 g_m + C_1 C_3 C_4 L_1 L_3 R_4 g_m + C_1 C_3 C_4 L_3 L_4 R_1 g_m + C_1 C_3 C_4 L_3 L_4\right) + s^4\left(2 C_1 C_3 C_4 L_3 R_1 R_3 g_m + C_1 C_3 C_4 L_3 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_3 R_3 + C_1 C_3 C_4 L_3 R_4 + C_1 C_3 L_1 L_3 g_m + 2 C_1 C_4 L_1 L_3 g_m + C_1 C_4 L_1 L_4 g_m + C_3 C_4 L_3 L_\dots\right)}$

**10.722  INVALID-ORDER-722** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$H(s) = \frac{}{2 C_1 C_3 C_4 L_1 L_3 L_4 R_3 R_4 g_m s^6 + 2 R_3 R_4 g_m + s^5\left(2 C_1 C_3 C_4 L_3 L_4 R_1 R_3 R_4 g_m + 2 C_1 C_3 C_4 L_3 L_4 R_3 R_4 + 2 C_1 C_3 L_1 L_3 L_4 R_3 g_m + C_1 C_3 L_1 L_3 L_4 R_4 g_m + 2 C_1 C_4 L_1 L_3 L_4 R_4 g_m\right) + s^4\left(2 C_1 C_3 L_1 L_3 R_3 R_4 g_m + 2 C_1 C_3 L_3 L_4 R_1 R_3 g_m + C_1 C_3 L_3 L_4 R_1 R_4 g_m + 2 C_1 C_3 L_3 L_4 R_3 + C_1 C_3\dots\right)}$

**10.723  INVALID-ORDER-723** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 R_3 R_4 g_m s^6 + R_3 R_4 g_m + s^5\left(C_1 C_3 C_4 L_3 L_4 R_1 R_3 R_4 g_m + C_1 C_3 L_1 L_3 L_4 R_3 g_m + C_1 C_4 L_1 L_3 L_4 R_4 g_m\right) + s^4\left(\dots\right)}{2 R_3 g_m + R_4 g_m + s^6\left(2 C_1 C_3 C_4 L_1 L_3 L_4 R_3 g_m + C_1 C_3 C_4 L_1 L_3 L_4 R_4 g_m\right) + s^5\left(2 C_1 C_3 C_4 L_3 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_3 L_4 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_3 L_4 R_3 + C_1 C_3 C_4 L_3 L_4 R_4 + C_1 C_3 L_1 L_3 L_4 g_m + 2 C_1 C_4 L_1 L_3 L_4 g_m\right) + s^4\left(2 C_1 C_3 L_1 L_3 R_3 g_m + C_1 C_3 L_1 L_3 R_4 g_m + C_1 C_3 L_3 L_4 R_\dots\right)}$

**10.724** **INVALID-ORDER-724** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{R_4 \left( C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$H(s) = \frac{}{2R_3 g_m + R_4 g_m + s^6 \left( 2C_1 C_3 C_4 L_1 L_3 L_4 R_3 g_m + C_1 C_3 C_4 L_1 L_3 L_4 R_4 g_m \right) + s^5 \left( 2C_1 C_3 C_4 L_1 L_3 R_3 R_4 g_m + 2C_1 C_3 C_4 L_3 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_3 L_4 R_1 R_4 g_m + 2C_1 C_3 C_4 L_3 L_4 R_3 + C_1 C_3 C_4 L_3 L_4 R_4 + 2C_1 C_4 L_1 L_3 L_4 g_m \right) + s^4 \left( 2C_1 C_3 C_4 L_3 R_1 R_3 R_4 g_m + 2C_1 C_3 C_4 L_3 R_3 R_4 \cdots \right.}$

**10.725** **INVALID-ORDER-725** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3 \left( C_3 L_3 s^2 + 1 \right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ R_4, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 L_1 L_3 R_3 R_4 g_m s^4 + C_1 C_3 L_3 R_1 R_3 R_4 g_m s^3 + C_1 R_1 R_3 R_4 g_m s + R_3 R_4 g_m + s^2 \left( C_1 L_1 R_3 R_4 g_m + C_3 L_3 R_3 R_4 g_m \right)}{2R_3 g_m + R_4 g_m + s^4 \left( 2C_1 C_3 L_1 L_3 R_3 g_m + C_1 C_3 L_1 L_3 R_4 g_m \right) + s^3 \left( C_1 C_3 L_1 R_3 R_4 g_m + 2C_1 C_3 L_3 R_1 R_3 g_m + C_1 C_3 L_3 R_1 R_4 g_m + 2C_1 C_3 L_3 R_3 + C_1 C_3 L_3 R_4 \right) + s^2 \left( C_1 C_3 R_1 R_3 R_4 g_m + C_1 C_3 R_3 R_4 + 2C_1 L_1 R_3 g_m + C_1 L_1 R_4 g_m + 2C_3 L_3 R_3 g_m + C_3 L_3 R_4 g_m \right) + s \left( 2C_1 R_1 R_3 \cdots \right)}$

**10.726** **INVALID-ORDER-726** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3 \left( C_3 L_3 s^2 + 1 \right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 L_1 L_3 R_3 g_m s^4 + C_1 C_3 L_3 R_1 R_3 g_m s^3 + C_1 R_1 R_3 g_m s + R_3 g_m + s^2 \left( C_1 L_1 R_3 g_m + C_3 L_3 R_3 g_m \right)}{2C_1 C_3 C_4 L_1 L_3 R_3 g_m s^5 + g_m + s^4 \left( 2C_1 C_3 C_4 L_3 R_1 R_3 g_m + 2C_1 C_3 C_4 L_3 R_3 + C_1 C_3 L_1 L_3 g_m \right) + s^3 \left( C_1 C_3 L_1 R_3 g_m + C_1 C_3 L_3 R_1 g_m + C_1 C_3 L_3 + 2C_1 C_4 L_1 R_3 g_m + 2C_3 L_3 R_3 g_m \right) + s^2 \left( C_1 C_3 R_1 R_3 g_m + C_1 C_3 R_3 + 2C_1 C_4 R_1 R_3 g_m + 2C_1 C_4 R_3 + C_1 L_1 g_m + C_3 L_3 g_m \right) + s \cdots}$

**10.727** **INVALID-ORDER-727** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3 \left( C_3 L_3 s^2 + 1 \right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 L_1 L_3 R_3 R_4 g_m s^4 + C_1 C_3 L_3 R_1 R_3 R_4 g_m s^3 + C_1 R_1 R_3 R_4 g_m s + R_3 R_4 g_m + s \cdots}{2C_1 C_3 C_4 L_1 L_3 R_3 R_4 g_m s^5 + 2R_3 g_m + R_4 g_m + s^4 \left( 2C_1 C_3 C_4 L_3 R_1 R_3 R_4 g_m + 2C_1 C_3 C_4 L_3 R_3 R_4 + 2C_1 C_3 L_1 L_3 R_3 g_m + C_1 C_3 L_1 L_3 R_4 g_m \right) + s^3 \left( C_1 C_3 L_1 R_3 R_4 g_m + 2C_1 C_3 L_3 R_1 R_3 g_m + C_1 C_3 L_3 R_1 R_4 g_m + 2C_1 C_3 L_3 R_3 + C_1 C_3 L_3 R_4 + 2C_1 C_4 L_1 R_3 R_4 g_m + 2C_3 C_4 L_3 R_3 \cdots \right)}$

**10.728** **INVALID-ORDER-728** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3 \left( C_3 L_3 s^2 + 1 \right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 R_3 R_4 g_m s^5 + R_3 g_m + s^4 \left( C_1 C_3 C_4 L_3 R_1 R_3 R_4 g_m + C_1 C_3 L_1 L_3 R_3 g_m \right) + s^3 \left( C_1 C_3 L_3 R_1 R_3 g_m + C_1 C_4 L_1 R_3 \cdots \right)}{g_m + s^5 \left( 2C_1 C_3 C_4 L_1 L_3 R_3 g_m + C_1 C_3 C_4 L_1 L_3 R_4 g_m \right) + s^4 \left( C_1 C_3 C_4 L_3 R_1 R_4 g_m + 2C_1 C_3 C_4 L_3 R_1 R_3 g_m + C_1 C_3 C_4 L_3 R_1 R_4 g_m + 2C_1 C_3 C_4 L_3 R_3 + C_1 C_3 C_4 L_3 R_4 + C_1 C_3 L_1 L_3 g_m \right) + s^3 \left( C_1 C_3 C_4 R_1 R_3 R_4 g_m + C_1 C_3 C_4 R_3 R_4 + C_1 C_3 L_1 R_3 g_m + C_1 C_3 L_3 R_1 g_m + C_1 C_3 L_3 \cdots \right)}$

**10.729** **INVALID-ORDER-729** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3 \left( C_3 L_3 s^2 + 1 \right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 R_3 g_m s^6 + C_1 C_3 C_4 L_3 L_4 R_1 R_3 g_m s^5 + C_1 R_1 R_3 g_m s + R_3 g_m + s^4 \left( C_1 C_3 L_1 L_3 R_3 g_m + C_1 C_4 L_1 L_4 R_3 g_m \cdots \right)}{C_1 C_3 C_4 L_1 L_3 L_4 g_m s^6 + g_m + s^5 \left( 2C_1 C_3 C_4 L_1 L_3 R_3 g_m + C_1 C_3 C_4 L_1 L_4 R_3 g_m + C_1 C_3 C_4 L_3 L_4 R_1 g_m + C_1 C_3 C_4 L_3 L_4 \right) + s^4 \left( 2C_1 C_3 C_4 L_3 R_1 R_3 g_m + 2C_1 C_3 C_4 L_3 R_3 + C_1 C_3 C_4 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_4 R_3 + C_1 C_3 L_1 L_3 g_m + C_1 C_4 L_1 L_4 g_m + C_3 C_4 L_3 L_4 g_m \right) + s^3 \left( C_1 C_3 L_1 \cdots \right)}$

**10.730** **INVALID-ORDER-730** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3 \left( C_3 L_3 s^2 + 1 \right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 L_1 L_3 L_4 R_3 g_m s^5 + C_1 C_3 L_3 L_4 R_1 R_3 g_m s^4 + C_1 L_4 R_1 R_3 g_m s^2 + L_4 R_3 g_m s + \cdots}{2C_1 C_3 C_4 L_1 L_3 L_4 R_3 g_m s^6 + 2R_3 g_m + s^5 \left( 2C_1 C_3 C_4 L_3 L_4 R_1 R_3 g_m + 2C_1 C_3 C_4 L_3 L_4 R_3 + C_1 C_3 L_1 L_3 L_4 g_m \right) + s^4 \left( 2C_1 C_3 L_1 L_3 R_3 g_m + C_1 C_3 L_1 L_4 R_3 g_m + C_1 C_3 L_3 L_4 R_1 g_m + C_1 C_3 L_3 L_4 + 2C_1 C_4 L_1 L_4 R_3 g_m + 2C_3 C_4 L_3 L_4 R_3 g_m \right) + s^3 \left( 2C_1 C_3 L_3 R_1 R_3 g_m + 2C_1 C_3 L_3 R_3 \cdots \right)}$

**10.731** **INVALID-ORDER-731** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3 \left( C_3 L_3 s^2 + 1 \right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 R_3 g_m s^6 + R_3 g_m + s^5 \left( C_1 C_3 C_4 L_1 L_3 R_3 R_4 g_m + C_1 C_3 C_4 L_3 \cdots \right)}{C_1 C_3 C_4 L_1 L_3 L_4 g_m s^6 + g_m + s^5 \left( 2C_1 C_3 C_4 L_1 L_3 R_3 g_m + C_1 C_3 C_4 L_1 L_3 R_4 g_m + C_1 C_3 C_4 L_1 L_4 R_3 g_m + C_1 C_3 C_4 L_3 L_4 R_1 g_m + C_1 C_3 C_4 L_3 L_4 \right) + s^4 \left( C_1 C_3 C_4 L_1 R_3 R_4 g_m + 2C_1 C_3 C_4 L_3 R_1 R_3 g_m + C_1 C_3 C_4 L_3 R_1 R_4 g_m + 2C_1 C_3 C_4 L_3 R_3 + C_1 C_3 C_4 L_3 R_4 + C_1 C_3 C_4 L_4 R_1 R_3 g_m + \cdots \right)}$

**10.732** **INVALID-ORDER-732** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3 \left( C_3 L_3 s^2 + 1 \right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$H(s) = \frac{}{2C_1 C_3 C_4 L_1 L_3 L_4 R_3 R_4 g_m s^6 + 2R_3 R_4 g_m + s^5 \left( 2C_1 C_3 C_4 L_3 L_4 R_1 R_3 R_4 g_m + 2C_1 C_3 C_4 L_3 L_4 R_3 R_4 + 2C_1 C_3 L_1 L_3 L_4 R_3 g_m + C_1 C_3 L_1 L_3 L_4 R_4 g_m \right) + s^4 \left( 2C_1 C_3 L_1 L_3 R_3 R_4 g_m + C_1 C_3 L_1 L_4 R_3 R_4 g_m + 2C_1 C_3 L_3 L_4 R_1 R_3 g_m + C_1 C_3 L_3 L_4 R_1 R_4 g_m + 2C_1 C_3 L_3 L_4 R_3 + C_1 C_3 \cdots \right)}$

**10.733** **INVALID-ORDER-733** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{}{2R_3 g_m + R_4 g_m + s^6 \left(2C_1 C_3 C_4 L_1 L_3 L_4 R_3 g_m + C_1 C_3 C_4 L_1 L_3 L_4 R_4 g_m\right) + s^5 \left(C_1 C_3 C_4 L_1 L_4 R_3 R_4 g_m + 2C_1 C_3 C_4 L_3 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_3 L_4 R_1 R_4 g_m + 2C_1 C_3 C_4 L_3 L_4 R_3 + C_1 C_3 C_4 L_3 L_4 R_4 + C_1 C_3 L_1 L_3 L_4 g_m\right) + s^4 \left(C_1 C_3 C_4 L_1 R_3 R_4 g_m + C_1 C_3 C_4 L_4 R_3 R_4 + 2C}$$

**10.734** **INVALID-ORDER-734** $Z(s) = \left( L_1 s + R_1 + \frac{1}{C_1 s}, \ \infty, \ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{}{2R_3 g_m + R_4 g_m + s^6 \left(2C_1 C_3 C_4 L_1 L_3 L_4 R_3 g_m + C_1 C_3 C_4 L_1 L_3 L_4 R_4 g_m\right) + s^5 \left(2C_1 C_3 C_4 L_1 L_3 R_3 R_4 g_m + C_1 C_3 C_4 L_1 L_4 R_3 R_4 g_m + 2C_1 C_3 C_4 L_3 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_3 L_4 R_1 R_4 g_m + 2C_1 C_3 C_4 L_3 L_4 R_3 + C_1 C_3 C_4 L_3 L_4 R_4\right) + s^4 \left(2C_1 C_3 C_4 L_3 R_1 R_3 R_4 g_m + 2C_1 C_3 C_4 L_3}$$

**10.735** **INVALID-ORDER-735** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ R_3, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1 R_1 R_3 g_m s}{2C_1 C_4 L_1 R_1 R_3 s^3 + R_1 + s^2 \left(C_1 L_1 R_1 + 2C_4 L_1 R_1 R_3 g_m + 2C_4 L_1 R_3\right) + s \left(2C_4 R_1 R_3 + L_1 R_1 g_m + L_1\right)}$$

**10.736** **INVALID-ORDER-736** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ R_3, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1 R_1 R_3 R_4 g_m s}{2C_1 C_4 L_1 R_1 R_3 R_4 s^3 + 2R_1 R_3 + R_1 R_4 + s^2 \left(2C_1 L_1 R_1 R_3 + C_1 L_1 R_1 R_4 + 2C_4 L_1 R_1 R_3 R_4 g_m + 2C_4 L_1 R_3 R_4\right) + s \left(2C_4 R_1 R_3 R_4 + 2L_1 R_1 R_3 g_m + L_1 R_1 R_4 g_m + 2L_1 R_3 + L_1 R_4\right)}$$

**10.737** **INVALID-ORDER-737** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ R_3, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 R_1 R_3 R_4 g_m s^2 + L_1 R_1 R_3 g_m s}{R_1 + s^3 \left(2C_1 C_4 L_1 R_1 R_3 + C_1 C_4 L_1 R_1 R_4\right) + s^2 \left(C_1 L_1 R_1 + 2C_4 L_1 R_1 R_3 g_m + C_4 L_1 R_1 R_4 g_m + 2C_4 L_1 R_3 + C_4 L_1 R_4\right) + s \left(2C_4 R_1 R_3 + C_4 R_1 R_4 + L_1 R_1 g_m + L_1\right)}$$

**10.738** **INVALID-ORDER-738** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ R_3, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_4 R_1 R_3 g_m s^3 + L_1 R_1 R_3 g_m s}{C_1 C_4 L_1 L_4 R_1 s^4 + R_1 + s^3 \left(2C_1 C_4 L_1 R_1 R_3 + C_4 L_1 L_4 R_1 g_m + C_4 L_1 L_4\right) + s^2 \left(C_1 L_1 R_1 + 2C_4 L_1 R_1 R_3 g_m + 2C_4 L_1 R_3 + C_4 L_4 R_1\right) + s \left(2C_4 R_1 R_3 + L_1 R_1 g_m + L_1\right)}$$

**10.739** **INVALID-ORDER-739** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ R_3, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1 L_4 R_1 R_3 g_m s^2}{2C_1 C_4 L_1 L_4 R_1 R_3 s^4 + 2R_1 R_3 + s^3 \left(C_1 L_1 L_4 R_1 + 2C_4 L_1 L_4 R_1 R_3 g_m + 2C_4 L_1 L_4 R_3\right) + s^2 \left(2C_1 L_1 R_1 R_3 + 2C_4 L_4 R_1 R_3 + L_1 L_4 R_1 g_m + L_1 L_4\right) + s \left(2L_1 R_1 R_3 g_m + 2L_1 R_3 + L_4 R_1\right)}$$

**10.740** **INVALID-ORDER-740** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ R_3, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_4 R_1 R_3 g_m s^3 + C_4 L_1 R_1 R_3 R_4 g_m s^2 + L_1 R_1 R_3 g_m s}{C_1 C_4 L_1 L_4 R_1 s^4 + R_1 + s^3 \left(2C_1 C_4 L_1 R_1 R_3 + C_1 C_4 L_1 R_1 R_4 + C_4 L_1 L_4 R_1 g_m + C_4 L_1 L_4\right) + s^2 \left(C_1 L_1 R_1 + 2C_4 L_1 R_1 R_3 g_m + C_4 L_1 R_1 R_4 g_m + 2C_4 L_1 R_3 + C_4 L_1 R_4 + C_4 L_4 R_1\right) + s \left(2C_4 R_1 R_3 + C_4 R_1 R_4 + L_1 R_1 g_m + L_1\right)}$$

**10.741** **INVALID-ORDER-741** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ R_3, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1 L_4 R_1 R_3 R_4 g_m s^2}{2C_1 C_4 L_1 L_4 R_1 R_3 R_4 s^4 + 2R_1 R_3 R_4 + s^3 \left(2C_1 L_1 L_4 R_1 R_3 + C_1 L_1 L_4 R_1 R_4 + 2C_4 L_1 L_4 R_1 R_3 R_4 g_m + 2C_4 L_1 L_4 R_3 R_4\right) + s^2 \left(2C_1 L_1 R_1 R_3 R_4 + 2C_4 L_4 R_1 R_3 R_4 + 2L_1 L_4 R_1 R_3 g_m + L_1 L_4 R_1 R_4 g_m + 2L_1 L_4 R_3 + L_1 L_4 R_4\right) + s \left(2L_1 R_1 R_3 R_4 g_m + 2L_1 R_3 R_4 + 2L_4 R_1 R_3 + L}$$

**10.742   INVALID-ORDER-742** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ R_3, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_4 R_1 R_3 R_4 g_m s^3 + L_1 L_4 R_1 R_3 g_m s^2 + L_1 R_1 R_3 R_4 g_m s}{2R_1 R_3 + R_1 R_4 + s^4 \left(2C_1 C_4 L_1 L_4 R_1 R_3 + C_1 C_4 L_1 L_4 R_1 R_4\right) + s^3 \left(C_1 L_1 L_4 R_1 + 2C_4 L_1 L_4 R_1 R_3 g_m + C_4 L_1 L_4 R_1 R_4 g_m + 2C_4 L_1 L_4 R_3 + C_4 L_1 L_4 R_4\right) + s^2 \left(2C_1 L_1 R_1 R_3 + C_1 L_1 R_1 R_4 + 2C_4 L_4 R_1 R_3 + C_4 L_4 R_1 R_4 + L_1 L_4 R_1 g_m + L_1 L_4\right) + s\left(2L_1 R_1 R_3 g_m + L_1 R_1 R_4 g_m}$$

**10.743   INVALID-ORDER-743** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ R_3, \ \frac{R_4 \left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_4 R_1 R_3 R_4 g_m s^3 + L_1 R_1 R_3 R_4 g_m s}{2R_1 R_3 + R_1 R_4 + s^4 \left(2C_1 C_4 L_1 L_4 R_1 R_3 + C_1 C_4 L_1 L_4 R_1 R_4\right) + s^3 \left(2C_1 C_4 L_1 R_1 R_3 R_4 + 2C_4 L_1 L_4 R_1 R_3 g_m + C_4 L_1 L_4 R_1 R_4 g_m + 2C_4 L_1 L_4 R_3 + C_4 L_1 L_4 R_4\right) + s^2 \left(2C_1 L_1 R_1 R_3 + C_1 L_1 R_1 R_4 + 2C_4 L_1 R_1 R_3 R_4 g_m + 2C_4 L_1 R_3 R_4 + 2C_4 L_4 R_1 R_3 + C_4 L_4 R_1 R_4\right) + s\left(2C_4 R_1}$$

**10.744   INVALID-ORDER-744** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{1}{C_3 s}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1 R_1 R_4 g_m s}{C_1 C_3 L_1 R_1 R_4 s^3 + 2R_1 + s^2 \left(2C_1 L_1 R_1 + C_3 L_1 R_1 R_4 g_m + C_3 L_1 R_4\right) + s\left(C_3 R_1 R_4 + 2L_1 R_1 g_m + 2L_1\right)}$$

**10.745   INVALID-ORDER-745** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1 R_1 R_4 g_m s}{2R_1 + s^3 \left(C_1 C_3 L_1 R_1 R_4 + 2C_1 C_4 L_1 R_1 R_4\right) + s^2 \left(2C_1 L_1 R_1 + C_3 L_1 R_1 R_4 g_m + C_3 L_1 R_4 + 2C_4 L_1 R_1 R_4 g_m + 2C_4 L_1 R_4\right) + s\left(C_3 R_1 R_4 + 2C_4 R_1 R_4 + 2L_1 R_1 g_m + 2L_1\right)}$$

**10.746   INVALID-ORDER-746** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{1}{C_3 s}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 R_1 R_4 g_m s + L_1 R_1 g_m}{C_1 C_3 C_4 L_1 R_1 R_4 s^3 + C_3 R_1 + 2C_4 R_1 + s^2 \left(C_1 C_3 L_1 R_1 + 2C_1 C_4 L_1 R_1 + C_3 C_4 L_1 R_1 R_4 g_m + C_3 C_4 L_1 R_4\right) + s\left(C_3 C_4 R_1 R_4 + C_3 L_1 R_1 g_m + C_3 L_1 + 2C_4 L_1 R_1 g_m + 2C_4 L_1\right)}$$

**10.747   INVALID-ORDER-747** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_4 R_1 g_m s^2 + L_1 R_1 g_m}{C_1 C_3 C_4 L_1 L_4 R_1 s^4 + C_3 R_1 + 2C_4 R_1 + s^3 \left(C_3 C_4 L_1 L_4 R_1 g_m + C_3 C_4 L_1 L_4\right) + s^2 \left(C_1 C_3 L_1 R_1 + 2C_1 C_4 L_1 R_1 + C_3 C_4 L_4 R_1\right) + s\left(C_3 L_1 R_1 g_m + C_3 L_1 + 2C_4 L_1 R_1 g_m + 2C_4 L_1\right)}$$

**10.748   INVALID-ORDER-748** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1 L_4 R_1 g_m s^2}{2R_1 + s^4 \left(C_1 C_3 L_1 L_4 R_1 + 2C_1 C_4 L_1 L_4 R_1\right) + s^3 \left(C_3 L_1 L_4 R_1 g_m + C_3 L_1 L_4 + 2C_4 L_1 L_4 R_1 g_m + 2C_4 L_1 L_4\right) + s^2 \left(2C_1 L_1 R_1 + C_3 L_4 R_1 + 2C_4 L_4 R_1\right) + s\left(2L_1 R_1 g_m + 2L_1\right)}$$

**10.749   INVALID-ORDER-749** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{1}{C_3 s}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_4 R_1 g_m s^2 + C_4 L_1 R_1 R_4 g_m s + L_1 R_1 g_m}{C_1 C_3 C_4 L_1 L_4 R_1 s^4 + C_3 R_1 + 2C_4 R_1 + s^3 \left(C_1 C_3 C_4 L_1 R_1 R_4 + C_3 C_4 L_1 L_4 R_1 g_m + C_3 C_4 L_1 L_4\right) + s^2 \left(C_1 C_3 L_1 R_1 + 2C_1 C_4 L_1 R_1 + C_3 C_4 L_1 R_1 R_4 g_m + C_3 C_4 L_1 R_4 + C_3 C_4 L_4 R_1\right) + s\left(C_3 C_4 R_1 R_4 + C_3 L_1 R_1 g_m + C_3 L_1 + 2C_4 L_1 R_1 g_m + 2C_4 L_1\right)}$$

**10.750   INVALID-ORDER-750** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1 L_4 R_1 R_4 g_m s^2}{2R_1 R_4 + s^4 \left(C_1 C_3 L_1 L_4 R_1 R_4 + 2C_1 C_4 L_1 L_4 R_1 R_4\right) + s^3 \left(2C_1 L_1 L_4 R_1 + C_3 L_1 L_4 R_1 R_4 g_m + C_3 L_1 L_4 R_4 + 2C_4 L_1 L_4 R_1 R_4 g_m + 2C_4 L_1 L_4 R_4\right) + s^2 \left(2C_1 L_1 R_1 R_4 + C_3 L_4 R_1 R_4 + 2C_4 L_4 R_1 R_4 + 2L_1 L_4 R_1 g_m + 2L_1 L_4\right) + s\left(2L_1 R_1 R_4 g_m + 2L_1 R_4 + 2L_4 R_1\right)}$$

**10.751   INVALID-ORDER-751** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_4 R_1 R_4 g_m s^3 + L_1 L_4 R_1 g_m s^2 + L_1 R_1 R_4 g_m s}{C_1 C_3 C_4 L_1 L_4 R_1 R_4 s^5 + 2R_1 + s^4 \left(C_1 C_3 L_1 L_4 R_1 + 2C_1 C_4 L_1 L_4 R_1 + C_3 C_4 L_1 L_4 R_1 R_4 g_m + C_3 C_4 L_1 L_4 R_4\right) + s^3 \left(C_1 C_3 L_1 R_1 R_4 + C_3 C_4 L_4 R_1 R_4 + C_3 L_1 L_4 R_1 g_m + C_3 L_1 L_4 + 2C_4 L_1 L_4 R_1 g_m + 2C_4 L_1 L_4\right) + s^2 \left(2C_1 L_1 R_1 + C_3 L_1 R_1 R_4 g_m + C_3 L_1 R_4 + C_3 L_4 R_1 + 2C_4 L$$

**10.752  INVALID-ORDER-752** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{R_4 \left( C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_4 R_1 R_4 g_m s^3 + L_1 R_1 R_4 g_m s}{C_1 C_3 C_4 L_1 L_4 R_1 R_4 s^5 + 2R_1 + s^4 \left( 2 C_1 C_4 L_1 L_4 R_1 + C_3 C_4 L_1 L_4 R_1 R_4 g_m + C_3 C_4 L_1 L_4 R_4 \right) + s^3 \left( C_1 C_3 L_1 R_1 R_4 + 2 C_1 C_4 L_1 R_1 R_4 + C_3 C_4 L_4 R_1 R_4 + 2 C_4 L_1 L_4 R_1 g_m + 2 C_4 L_1 L_4 \right) + s^2 \left( 2 C_1 L_1 R_1 + C_3 L_1 R_1 R_4 g_m + C_3 L_1 R_4 + 2 C_4 L_1 R_1 R_4 g_m + 2 C_4 L_1 R_4 + 2 C_4 L_4 R_1 \right) + \cdots}$$

**10.753  INVALID-ORDER-753** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1 R_1 R_3 R_4 g_m s}{C_1 C_3 L_1 R_1 R_3 R_4 s^3 + 2R_1 R_3 + R_1 R_4 + s^2 \left( 2 C_1 L_1 R_1 R_3 + C_1 L_1 R_1 R_4 + C_3 L_1 R_1 R_3 R_4 g_m + C_3 L_1 R_1 R_3 R_4 \right) + s \left( C_3 R_1 R_3 R_4 + 2 L_1 R_1 R_3 g_m + L_1 R_1 R_4 g_m + 2 L_1 R_3 + L_1 R_4 \right)}$$

**10.754  INVALID-ORDER-754** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1 R_1 R_3 g_m s}{R_1 + s^3 \left( C_1 C_3 L_1 R_1 R_3 + 2 C_1 C_4 L_1 R_1 R_3 \right) + s^2 \left( C_1 L_1 R_1 + C_3 L_1 R_1 R_3 g_m + C_3 L_1 R_3 + 2 C_4 L_1 R_1 R_3 g_m + 2 C_4 L_1 R_3 \right) + s \left( C_3 R_1 R_3 + 2 C_4 R_1 R_3 + L_1 R_1 g_m + L_1 \right)}$$

**10.755  INVALID-ORDER-755** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1 R_1 R_3 R_4 g_m s}{2R_1 R_3 + R_1 R_4 + s^3 \left( C_1 C_3 L_1 R_1 R_3 R_4 + 2 C_1 C_4 L_1 R_1 R_3 R_4 \right) + s^2 \left( 2 C_1 L_1 R_1 R_3 + C_1 L_1 R_1 R_4 + C_3 L_1 R_1 R_3 R_4 g_m + C_3 L_1 R_3 R_4 + 2 C_4 L_1 R_1 R_3 R_4 g_m + 2 C_4 L_1 R_3 R_4 \right) + s \left( C_3 R_1 R_3 R_4 + 2 C_4 R_1 R_3 R_4 + 2 L_1 R_1 R_3 g_m + L_1 R_1 R_4 g_m + 2 L_1 R_3 + L_1 R_4 \right)}$$

**10.756  INVALID-ORDER-756** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 R_1 R_3 R_4 g_m s^2 + L_1 R_1 R_3 g_m s}{C_1 C_3 C_4 L_1 R_1 R_3 R_4 s^4 + R_1 + s^3 \left( C_1 C_3 L_1 R_1 R_3 + 2 C_1 C_4 L_1 R_1 R_3 + C_1 C_4 L_1 R_1 R_4 + C_3 C_4 L_1 R_1 R_3 R_4 g_m + C_3 C_4 L_1 R_3 R_4 \right) + s^2 \left( C_1 L_1 R_1 + C_3 C_4 R_1 R_3 R_4 + C_3 L_1 R_1 R_3 g_m + C_3 L_1 R_3 + 2 C_4 L_1 R_1 R_3 g_m + C_4 L_1 R_1 R_4 g_m + 2 C_4 L_1 R_3 + C_4 L_1 R_4 \right) + s \left( C_3 R_1 R_3 + 2 C_4 R_1 \cdots \right)}$$

**10.757  INVALID-ORDER-757** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_4 R_1 R_3 g_m s^3 + L_1 R_1 R_3 g_m s}{C_1 C_3 C_4 L_1 L_4 R_1 R_3 s^5 + R_1 + s^4 \left( C_1 C_4 L_1 L_4 R_1 + C_3 C_4 L_1 L_4 R_1 R_3 g_m + C_3 C_4 L_1 L_4 R_3 \right) + s^3 \left( C_1 C_3 L_1 R_1 R_3 + 2 C_1 C_4 L_1 R_1 R_3 + C_3 C_4 L_4 R_1 R_3 + C_4 L_1 L_4 R_1 g_m + C_4 L_1 L_4 \right) + s^2 \left( C_1 L_1 R_1 + C_3 L_1 R_1 R_3 g_m + C_3 L_1 R_3 + 2 C_4 L_1 R_1 R_3 g_m + 2 C_4 L_1 R_3 + C_4 L_4 R_1 \right) + s \left( C_3 R_1 \cdots \right)}$$

**10.758  INVALID-ORDER-758** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1 L_4 R_1 R_3 g_m s^2}{2R_1 R_3 + s^4 \left( C_1 C_3 L_1 L_4 R_1 R_3 + 2 C_1 C_4 L_1 L_4 R_1 R_3 \right) + s^3 \left( C_1 L_1 L_4 R_1 + C_3 L_1 L_4 R_1 R_3 g_m + C_3 L_1 L_4 R_3 + 2 C_4 L_1 L_4 R_1 R_3 g_m + 2 C_4 L_1 L_4 R_3 \right) + s^2 \left( 2 C_1 L_1 R_1 R_3 + C_3 L_4 R_1 R_3 + 2 C_4 L_4 R_1 R_3 + L_1 L_4 R_1 g_m + L_1 L_4 \right) + s \left( 2 L_1 R_1 R_3 g_m + 2 L_1 R_3 + L_4 R_1 \right)}$$

**10.759  INVALID-ORDER-759** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_4 R_1 R_3 g_m s^3 + C_4 L_1 R_1 R_3 R_4 g_m s^2 + L_1 R_1 R_3 g_m s}{C_1 C_3 C_4 L_1 L_4 R_1 R_3 s^5 + R_1 + s^4 \left( C_1 C_3 C_4 L_1 R_1 R_3 R_4 + C_1 C_4 L_1 L_4 R_1 + C_3 C_4 L_1 L_4 R_1 R_3 g_m + C_3 C_4 L_1 L_4 R_3 \right) + s^3 \left( C_1 C_3 L_1 R_1 R_3 + 2 C_1 C_4 L_1 R_1 R_3 + C_1 C_4 L_1 R_1 R_4 + C_3 C_4 L_1 R_1 R_3 R_4 g_m + C_3 C_4 L_1 R_3 R_4 + C_3 C_4 L_4 R_1 R_3 + C_4 L_1 L_4 R_1 g_m + C_4 L_1 L_4 \right) + s^2 \left( C_1 L_1 R_1 + \cdots \right)}$$

**10.760  INVALID-ORDER-760** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1 L_4 R_1 R_3 R_4 g_m s^2}{2R_1 R_3 R_4 + s^4 \left( C_1 C_3 L_1 L_4 R_1 R_3 R_4 + 2 C_1 C_4 L_1 L_4 R_1 R_3 R_4 \right) + s^3 \left( 2 C_1 L_1 L_4 R_1 R_3 + C_1 L_1 L_4 R_1 R_4 + C_3 L_1 L_4 R_1 R_3 R_4 g_m + C_3 L_1 L_4 R_3 R_4 + 2 C_4 L_1 L_4 R_1 R_3 R_4 g_m + 2 C_4 L_1 L_4 R_3 R_4 \right) + s^2 \left( 2 C_1 L_1 R_1 R_3 R_4 + C_3 L_4 R_1 R_3 R_4 + 2 C_4 L_4 R_1 R_3 R_4 + 2 L_1 L_4 R_1 R_3 g_m + L_1 L_4 R_1 \cdots \right)}$$

**10.761  INVALID-ORDER-761** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_4 R_1 R_3 R_4 g_m s^3 + L_1 R_1 R_3 \cdots}{C_1 C_3 C_4 L_1 L_4 R_1 R_3 R_4 s^5 + 2R_1 R_3 + R_1 R_4 + s^4 \left( C_1 C_3 L_1 L_4 R_1 R_3 + 2 C_1 C_4 L_1 L_4 R_1 R_3 + C_1 C_4 L_1 L_4 R_1 R_4 + C_3 C_4 L_1 L_4 R_1 R_3 R_4 g_m + C_3 C_4 L_1 L_4 R_3 R_4 \right) + s^3 \left( C_1 C_3 L_1 R_1 R_3 R_4 + C_1 L_1 L_4 R_1 + C_3 C_4 L_4 R_1 R_3 R_4 + C_3 L_1 L_4 R_1 R_3 g_m + C_3 L_1 L_4 R_3 + 2 C_4 L_1 L_4 R_1 R_3 g_m + \cdots \right)}$$

**10.762  INVALID-ORDER-762** $Z(s) = \left( \frac{L_1R_1s}{C_1L_1R_1s^2+L_1s+R_1}, \ \infty, \ \frac{R_3}{C_3R_3s+1}, \ \frac{R_4\left(C_4L_4s^2+1\right)}{C_4L_4s^2+C_4R_4s+1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4L_1L_4R_1R_3R_4g_ms^3 + L_1R_1R_3R_4g_ms}{C_1C_3C_4L_1L_4R_1R_3R_4s^5 + 2R_1R_3 + R_1R_4 + s^4\left(2C_1C_4L_1L_4R_1R_3 + C_1C_4L_1L_4R_1R_4 + C_3C_4L_1L_4R_1R_3R_4g_m + C_3C_4L_1L_4R_3R_4\right) + s^3\left(C_1C_3L_1R_1R_3R_4 + 2C_1C_4L_1R_1R_3R_4 + C_3C_4L_1R_1R_3R_4 + 2C_4L_1L_4R_1R_3g_m + C_4L_1L_4R_1R_4g_m + 2C_4L_1L_4R_3 + C_4L_1L_4R_4\right)}$$

**10.763  INVALID-ORDER-763** $Z(s) = \left( \frac{L_1R_1s}{C_1L_1R_1s^2+L_1s+R_1}, \ \infty, \ R_3 + \frac{1}{C_3s}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3L_1R_1R_3R_4g_ms^2 + L_1R_1R_4g_ms}{2R_1 + s^3\left(2C_1C_3L_1R_1R_3 + C_1C_3L_1R_1R_4\right) + s^2\left(2C_1L_1R_1 + 2C_3L_1R_1R_3g_m + C_3L_1R_1R_4g_m + 2C_3L_1R_3 + C_3L_1R_4\right) + s\left(2C_3R_1R_3 + C_3R_1R_4 + 2L_1R_1g_m + 2L_1\right)}$$

**10.764  INVALID-ORDER-764** $Z(s) = \left( \frac{L_1R_1s}{C_1L_1R_1s^2+L_1s+R_1}, \ \infty, \ R_3 + \frac{1}{C_3s}, \ \frac{1}{C_4s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3L_1R_1R_3g_ms + L_1R_1g_m}{2C_1C_3C_4L_1R_1R_3s^3 + C_3R_1 + 2C_4R_1 + s^2\left(C_1C_3L_1R_1 + 2C_1C_4L_1R_1 + 2C_3C_4L_1R_1R_3g_m + 2C_3C_4L_1R_3\right) + s\left(2C_3C_4R_1R_3 + C_3L_1R_1g_m + C_3L_1 + 2C_4L_1R_1g_m + 2C_4L_1\right)}$$

**10.765  INVALID-ORDER-765** $Z(s) = \left( \frac{L_1R_1s}{C_1L_1R_1s^2+L_1s+R_1}, \ \infty, \ R_3 + \frac{1}{C_3s}, \ \frac{R_4}{C_4R_4s+1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3L_1R_1R_3R_4g_ms^2 + L_1R_1R_4g_ms}{2C_1C_3C_4L_1R_1R_3R_4s^4 + 2R_1 + s^3\left(2C_1C_3L_1R_1R_3 + C_1C_3L_1R_1R_4 + 2C_1C_4L_1R_1R_4 + 2C_3C_4L_1R_1R_3R_4g_m + 2C_3C_4L_1R_3R_4\right) + s^2\left(2C_1L_1R_1 + 2C_3C_4R_1R_3R_4 + 2C_3L_1R_1R_3g_m + C_3L_1R_1R_4g_m + 2C_3L_1R_3 + C_3L_1R_4 + 2C_4L_1R_1R_4g_m + 2C_4L_1R_4\right) + s\left(2C_3R_1\ldots\right)}$$

**10.766  INVALID-ORDER-766** $Z(s) = \left( \frac{L_1R_1s}{C_1L_1R_1s^2+L_1s+R_1}, \ \infty, \ R_3 + \frac{1}{C_3s}, \ R_4 + \frac{1}{C_4s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3C_4L_1R_1R_3R_4g_ms^2 + L_1R_1g_m + s\left(C_3L_1R_1R_3g_m + C_4L_1R_1R_4g_m\right)}{C_3R_1 + 2C_4R_1 + s^3\left(2C_1C_3C_4L_1R_1R_3 + C_1C_3C_4L_1R_1R_4\right) + s^2\left(C_1C_3L_1R_1 + 2C_1C_4L_1R_1 + 2C_3C_4L_1R_1R_3g_m + C_3C_4L_1R_1R_4g_m + 2C_3C_4L_1R_3 + C_3C_4L_1R_4\right) + s\left(2C_3C_4R_1R_3 + C_3C_4R_1R_4 + C_3L_1R_1g_m + C_3L_1 + 2C_4L_1R_1g_m + 2C_4L_1\right)}$$

**10.767  INVALID-ORDER-767** $Z(s) = \left( \frac{L_1R_1s}{C_1L_1R_1s^2+L_1s+R_1}, \ \infty, \ R_3 + \frac{1}{C_3s}, \ L_4s + \frac{1}{C_4s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3C_4L_1L_4R_1R_3g_ms^3 + C_3L_1R_1R_3g_ms + C_4L_1L_4R_1g_ms^2 + L_1R_1g_m}{C_1C_3C_4L_1L_4R_1s^4 + C_3R_1 + 2C_4R_1 + s^3\left(2C_1C_3C_4L_1R_1R_3 + C_3C_4L_1L_4R_1g_m + C_3C_4L_1L_4\right) + s^2\left(C_1C_3L_1R_1 + 2C_1C_4L_1R_1 + 2C_3C_4L_1R_1R_3g_m + 2C_3C_4L_1R_3 + C_3C_4L_4R_1\right) + s\left(2C_3C_4R_1R_3 + C_3L_1R_1g_m + C_3L_1 + 2C_4L_1R_1g_m + 2C_4L_1\right)}$$

**10.768  INVALID-ORDER-768** $Z(s) = \left( \frac{L_1R_1s}{C_1L_1R_1s^2+L_1s+R_1}, \ \infty, \ R_3 + \frac{1}{C_3s}, \ \frac{L_4s}{C_4L_4s^2+1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3L_1L_4R_1R_3g_ms^3 + L_1L_4R_1g_ms^2}{2C_1C_3C_4L_1L_4R_1R_3s^5 + 2R_1 + s^4\left(C_1C_3L_1L_4R_1 + 2C_1C_4L_1L_4R_1 + 2C_3C_4L_1L_4R_1R_3g_m + 2C_3C_4L_1L_4R_3\right) + s^3\left(2C_1C_3L_1R_1R_3 + 2C_3C_4L_4R_1R_3 + C_3L_1L_4R_1g_m + C_3L_1L_4 + 2C_4L_1L_4R_1g_m + 2C_4L_1L_4\right) + s^2\left(2C_1L_1R_1 + 2C_3L_1R_1R_3g_m + 2C_3L_1R_3 + C_3L_4R_1 \ldots\right)}$$

**10.769  INVALID-ORDER-769** $Z(s) = \left( \frac{L_1R_1s}{C_1L_1R_1s^2+L_1s+R_1}, \ \infty, \ R_3 + \frac{1}{C_3s}, \ L_4s + R_4 + \frac{1}{C_4s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3C_4L_1L_4R_1R_3g_ms^3 + L_1R_1g_m + s^2\left(C_3C_4L_1R_1R_3R_4g_m + C_4L_1L_4R_1g_m\right) + s\left(C_3L_1R_1R_3g_m + C_4L_1R_1R_4g_m\right)}{C_1C_3C_4L_1L_4R_1s^4 + C_3R_1 + 2C_4R_1 + s^3\left(2C_1C_3C_4L_1R_1R_3 + C_1C_3C_4L_1R_1R_4 + C_3C_4L_1L_4R_1g_m + C_3C_4L_1L_4\right) + s^2\left(C_1C_3L_1R_1 + 2C_1C_4L_1R_1 + 2C_3C_4L_1R_1R_3g_m + C_3C_4L_1R_1R_4g_m + 2C_3C_4L_1R_3 + C_3C_4L_1R_4 + C_3C_4L_4R_1\right) + s\left(2C_3C_4R_1R_3 + C_3C_4R_1R_4 + \ldots\right)}$$

**10.770  INVALID-ORDER-770** $Z(s) = \left( \frac{L_1R_1s}{C_1L_1R_1s^2+L_1s+R_1}, \ \infty, \ R_3 + \frac{1}{C_3s}, \ \frac{L_4R_4s}{C_4L_4R_4s^2+L_4s+R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3L_1L_4R_1R_3R_4g_ms^3 + L_1L_4R_1R_4g_ms^2 \ldots}{2C_1C_3C_4L_1L_4R_1R_3R_4s^5 + 2R_1R_4 + s^4\left(2C_1C_3L_1L_4R_1R_3 + C_1C_3L_1L_4R_1R_4 + 2C_1C_4L_1L_4R_1R_4 + 2C_3C_4L_1L_4R_1R_3R_4g_m + 2C_3C_4L_1L_4R_3R_4\right) + s^3\left(2C_1C_3L_1R_1R_3R_4 + 2C_1L_1L_4R_1 + 2C_3C_4L_4R_1R_3R_4 + 2C_3L_1L_4R_1R_3g_m + C_3L_1L_4R_1R_4g_m + 2C_3L_1L_4R_3 + \ldots\right)}$$

**10.771  INVALID-ORDER-771** $Z(s) = \left( \frac{L_1R_1s}{C_1L_1R_1s^2+L_1s+R_1}, \ \infty, \ R_3 + \frac{1}{C_3s}, \ \frac{C_4L_4R_4s^2+L_4s+R_4}{C_4L_4s^2+1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3C_4L_1L_4R_1R_3R_4g_ms^4 + L_1R_1R_4g_ms + s^3\left(C_3L_1L_4R_1R_3g_m + C_4L_1L_4R_1R_4g_m\right) + s^2\left(C_3L_1R_1R_3\ldots\right)}{2R_1 + s^5\left(2C_1C_3C_4L_1L_4R_1R_3 + C_1C_3C_4L_1L_4R_1R_4\right) + s^4\left(C_1C_3L_1L_4R_1 + 2C_1C_4L_1L_4R_1 + 2C_3C_4L_1L_4R_1R_3g_m + C_3C_4L_1L_4R_1R_4g_m + 2C_3C_4L_1L_4R_3 + C_3C_4L_1L_4R_4\right) + s^3\left(2C_1C_3L_1R_1R_3 + C_1C_3L_1R_1R_4 + 2C_3C_4L_4R_1R_3 + C_3C_4L_4R_1R_4 + C_3L_1L_4R_1g_m + \ldots\right)}$$

**10.772  INVALID-ORDER-772** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \; \infty, \; R_3 + \frac{1}{C_3 s}, \; \frac{R_4(C_4 L_4 s^2 + 1)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \; \infty, \; \infty \right)$

$$H(s) = \frac{C_3 C_4 L_1 L_4 R_1 R_3 R_4 g_m s^4 + C_3 L_1 R_1 R_3 \cdots}{2R_1 + s^5 \left(2 C_1 C_3 C_4 L_1 L_4 R_1 R_3 + C_1 C_3 C_4 L_1 L_4 R_1 R_4\right) + s^4 \left(2 C_1 C_3 C_4 L_1 R_1 R_3 R_4 + 2 C_1 C_4 L_1 L_4 R_1 + 2 C_3 C_4 L_1 L_4 R_1 R_3 g_m + C_3 C_4 L_1 L_4 R_1 R_4 g_m + 2 C_3 C_4 L_1 L_4 R_3 + C_3 C_4 L_1 L_4 R_4\right) + s^3 \left(2 C_1 C_3 L_1 R_1 R_3 + C_1 C_3 L_1 R_1 R_4 + 2 C_1 C_4 L_1 R_1 R_4 + 2 C_3 C_4 L_1 R_1 R_3 R_4 g_m + 2 C_3 \cdots\right)}$$

**10.773  INVALID-ORDER-773** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \; \infty, \; L_3 s + \frac{1}{C_3 s}, \; R_4, \; \infty, \; \infty \right)$

$$H(s) = \frac{C_3 L_1 L_3 R_1 R_4 g_m s^3 + L_1 R_1 R_4 g_m s}{2 C_1 C_3 L_1 L_3 R_1 s^4 + 2 R_1 + s^3 \left(C_1 C_3 L_1 R_1 R_4 + 2 C_3 L_1 L_3 R_1 g_m + 2 C_3 L_1 L_3\right) + s^2 \left(2 C_1 L_1 R_1 + C_3 L_1 R_1 R_4 g_m + C_3 L_1 R_4 + 2 C_3 L_3 R_1\right) + s \left(C_3 R_1 R_4 + 2 L_1 R_1 g_m + 2 L_1\right)}$$

**10.774  INVALID-ORDER-774** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \; \infty, \; L_3 s + \frac{1}{C_3 s}, \; \frac{1}{C_4 s}, \; \infty, \; \infty \right)$

$$H(s) = \frac{C_3 L_1 L_3 R_1 g_m s^2 + L_1 R_1 g_m}{2 C_1 C_3 C_4 L_1 L_3 R_1 s^4 + C_3 R_1 + 2 C_4 R_1 + s^3 \left(2 C_3 C_4 L_1 L_3 R_1 g_m + 2 C_3 C_4 L_1 L_3\right) + s^2 \left(C_1 C_3 L_1 R_1 + 2 C_1 C_4 L_1 R_1 + 2 C_3 C_4 L_3 R_1\right) + s \left(C_3 L_1 R_1 g_m + C_3 L_1 + 2 C_4 L_1 R_1 g_m + 2 C_4 L_1\right)}$$

**10.775  INVALID-ORDER-775** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \; \infty, \; L_3 s + \frac{1}{C_3 s}, \; \frac{R_4}{C_4 R_4 s + 1}, \; \infty, \; \infty \right)$

$$H(s) = \frac{C_3 L_1 L_3 R_1 R_4 g_m s^3 + L_1 R_1 R_4 g_m s}{2 C_1 C_3 C_4 L_1 L_3 R_1 R_4 s^5 + 2 R_1 + s^4 \left(2 C_1 C_3 L_1 L_3 R_1 + 2 C_3 C_4 L_1 L_3 R_1 R_4 g_m + 2 C_3 C_4 L_1 L_3 R_4\right) + s^3 \left(C_1 C_3 L_1 R_1 R_4 + 2 C_1 C_4 L_1 R_1 R_4 + 2 C_3 C_4 L_3 R_1 R_4 + 2 C_3 L_1 L_3 R_1 g_m + 2 C_3 L_1 L_3\right) + s^2 \left(2 C_1 L_1 R_1 + C_3 L_1 R_1 R_4 g_m + C_3 L_1 R_4 + 2 C_3 L_3 R_1 + 2 C_4 L_1 R_1 \cdots\right)}$$

**10.776  INVALID-ORDER-776** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \; \infty, \; L_3 s + \frac{1}{C_3 s}, \; R_4 + \frac{1}{C_4 s}, \; \infty, \; \infty \right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 R_1 R_4 g_m s^3 + C_3 L_1 L_3 R_1 g_m s^2 + C_4 L_1 R_1 R_4 g_m s + L_1 R_1 g_m}{2 C_1 C_3 C_4 L_1 L_3 R_1 s^4 + C_3 R_1 + 2 C_4 R_1 + s^3 \left(C_1 C_3 C_4 L_1 R_1 R_4 + 2 C_3 C_4 L_1 L_3 R_1 g_m + 2 C_3 C_4 L_1 L_3\right) + s^2 \left(C_1 C_3 L_1 R_1 + 2 C_1 C_4 L_1 R_1 + C_3 C_4 L_1 R_1 R_4 g_m + C_3 C_4 L_1 R_4 + 2 C_3 C_4 L_3 R_1\right) + s \left(C_3 C_4 R_1 R_4 + C_3 L_1 R_1 g_m + C_3 L_1 + 2 C_4 L_1 R_1 g_m + 2 C_4 L_1\right)}$$

**10.777  INVALID-ORDER-777** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \; \infty, \; L_3 s + \frac{1}{C_3 s}, \; L_4 s + \frac{1}{C_4 s}, \; \infty, \; \infty \right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 R_1 g_m s^4 + L_1 R_1 g_m + s^2 \left(C_3 L_1 L_3 R_1 g_m + C_4 L_1 L_4 R_1 g_m\right)}{C_3 R_1 + 2 C_4 R_1 + s^4 \left(2 C_1 C_3 C_4 L_1 L_3 R_1 + C_1 C_3 C_4 L_1 L_4 R_1\right) + s^3 \left(2 C_3 C_4 L_1 L_3 R_1 g_m + 2 C_3 C_4 L_1 L_3 + C_3 C_4 L_1 L_4 R_1 g_m + C_3 C_4 L_1 L_4\right) + s^2 \left(C_1 C_3 L_1 R_1 + 2 C_1 C_4 L_1 R_1 + 2 C_3 C_4 L_3 R_1 + C_3 C_4 L_4 R_1\right) + s \left(C_3 L_1 R_1 g_m + C_3 L_1 + 2 C_4 L_1 R_1 g_m + 2 C_4 L_1\right)}$$

**10.778  INVALID-ORDER-778** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \; \infty, \; L_3 s + \frac{1}{C_3 s}, \; \frac{L_4 s}{C_4 L_4 s^2 + 1}, \; \infty, \; \infty \right)$

$$H(s) = \frac{C_3 L_1 L_3 L_4 R_1 g_m s^4 + L_1 L_4 R_1 g_m s^2}{2 C_1 C_3 C_4 L_1 L_3 L_4 R_1 s^6 + 2 R_1 + s^5 \left(2 C_3 C_4 L_1 L_3 L_4 R_1 g_m + 2 C_3 C_4 L_1 L_3 L_4\right) + s^4 \left(2 C_1 C_3 L_1 L_3 R_1 + C_1 C_3 L_1 L_4 R_1 + 2 C_1 C_4 L_1 L_4 R_1 + 2 C_3 C_4 L_3 L_4 R_1\right) + s^3 \left(2 C_3 L_1 L_3 R_1 g_m + 2 C_3 L_1 L_3 + C_3 L_1 L_4 R_1 g_m + C_3 L_1 L_4 + 2 C_4 L_1 L_4 R_1 g_m + 2 C_4 L_1 L_4\right) + s^2 \left(2 C_1 L_1 R_1 + 2 C_3 L \cdots\right)}$$

**10.779  INVALID-ORDER-779** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \; \infty, \; L_3 s + \frac{1}{C_3 s}, \; L_4 s + R_4 + \frac{1}{C_4 s}, \; \infty, \; \infty \right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 R_1 g_m s^4 + C_3 C_4 L_1 L_3 R_1 R_4 g_m s^3 + C_4 L_1 R_1 R_4 g_m s + L_1 R_1 g_m + s^2 \left(C_3 L_1 L_3 R_1 g_m + C_4 L_1 L_4 R_1 g_m\right)}{C_3 R_1 + 2 C_4 R_1 + s^4 \left(2 C_1 C_3 C_4 L_1 L_3 R_1 + C_1 C_3 C_4 L_1 L_4 R_1\right) + s^3 \left(C_1 C_3 C_4 L_1 R_1 R_4 + 2 C_3 C_4 L_1 L_3 R_1 g_m + 2 C_3 C_4 L_1 L_3 + C_3 C_4 L_1 L_4 R_1 g_m + C_3 C_4 L_1 L_4\right) + s^2 \left(C_1 C_3 L_1 R_1 + 2 C_1 C_4 L_1 R_1 + C_3 C_4 L_1 R_1 R_4 g_m + C_3 C_4 L_1 R_4 + 2 C_3 C_4 L_3 R_1 + C_3 C_4 L_4 R_1\right) + s \left(C_3 C_4 R_1 R_4 \cdots\right)}$$

**10.780  INVALID-ORDER-780** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \; \infty, \; L_3 s + \frac{1}{C_3 s}, \; \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \; \infty, \; \infty \right)$

$$H(s) = \frac{C_3 L_1 L_3 L_4 R_1 R_4 g_m s^4 + L_1 L_4 R_1 R_4 g_m \cdots}{2 C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_4 s^6 + 2 R_1 R_4 + s^5 \left(2 C_1 C_3 L_1 L_3 L_4 R_1 + 2 C_3 C_4 L_1 L_3 L_4 R_1 R_4 g_m + 2 C_3 C_4 L_1 L_3 L_4 R_4\right) + s^4 \left(2 C_1 C_3 L_1 L_3 R_1 R_4 + C_1 C_3 L_1 L_4 R_1 R_4 + 2 C_1 C_4 L_1 L_4 R_1 R_4 + 2 C_3 C_4 L_3 L_4 R_1 R_4 + 2 C_3 L_1 L_3 L_4 R_1 g_m + 2 C_3 L_1 L_3 L_4\right) + s^3 \left(2 C_1 L_1 L_4 R_1 + 2 C_3 L_1 L_3 R_1 R_4 g \cdots\right)}$$

**10.781  INVALID-ORDER-781** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \; \infty, \; L_3 s + \frac{1}{C_3 s}, \; \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \; \infty, \; \infty \right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 R_1 R_4 g_m s^5 + C_3 L_1 L_3 L_4 R_1 g_m s^4 + L_1 L_4 R_1 g_m s^2 + L_1 R_1 R_4 g_m s + s^3 \left(C_3 L_1 L_3 R_1 R_4 g_m \cdots\right)}{2 C_1 C_3 C_4 L_1 L_3 L_4 R_1 s^6 + 2 R_1 + s^5 \left(C_1 C_3 C_4 L_1 L_4 R_1 R_4 + 2 C_3 C_4 L_1 L_3 L_4 R_1 g_m + 2 C_3 C_4 L_1 L_3 L_4\right) + s^4 \left(2 C_1 C_3 L_1 L_3 R_1 + C_1 C_3 L_1 L_4 R_1 + 2 C_1 C_4 L_1 L_4 R_1 + C_3 C_4 L_1 L_4 R_1 R_4 g_m + C_3 C_4 L_1 L_4 R_4 + 2 C_3 C_4 L_3 L_4 R_1\right) + s^3 \left(C_1 C_3 L_1 R_1 R_4 + C_3 C_4 L_4 R_1 R_4 + 2 C_3 L_1 L_3 R_1 g_m \cdots\right)}$$

**10.782 INVALID-ORDER-782** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{R_4 \left( C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 R_1 R_4 g_m s^5 + L_1 R_1 R_4 g_m \ldots}{2 C_1 C_3 C_4 L_1 L_3 L_4 R_1 s^6 + 2 R_1 + s^5 \left( 2 C_1 C_3 C_4 L_1 L_3 R_1 R_4 + C_1 C_3 C_4 L_1 L_4 R_1 R_4 + 2 C_3 C_4 L_1 L_3 L_4 R_1 g_m + 2 C_3 C_4 L_1 L_3 L_4 \right) + s^4 \left( 2 C_1 C_3 L_1 L_3 R_1 + 2 C_1 C_4 L_1 L_4 R_1 + 2 C_3 C_4 L_1 L_3 R_1 R_4 g_m + 2 C_3 C_4 L_1 L_3 R_4 + C_3 C_4 L_1 L_4 R_1 R_4 g_m + C_3 C_4 L_1 L_4 R_4 + 2 C_3 C_4 L_3 L_4 R_1 \right) + s^3 \left( C \ldots \right.}$$

**10.783 INVALID-ORDER-783** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1 L_3 R_1 R_4 g_m s^2}{C_1 C_3 L_1 L_3 R_1 R_4 s^4 + R_1 R_4 + s^3 \left( 2 C_1 L_1 L_3 R_1 + C_3 L_1 L_3 R_1 R_4 g_m + C_3 L_1 L_3 R_4 \right) + s^2 \left( C_1 L_1 R_1 R_4 + C_3 L_3 R_1 R_4 + 2 L_1 L_3 R_1 g_m + 2 L_1 L_3 \right) + s \left( L_1 R_1 R_4 g_m + L_1 R_4 + 2 L_3 R_1 \right)}$$

**10.784 INVALID-ORDER-784** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1 L_3 R_1 g_m s^2}{R_1 + s^4 \left( C_1 C_3 L_1 L_3 R_1 + 2 C_1 C_4 L_1 L_3 R_1 \right) + s^3 \left( C_3 L_1 L_3 R_1 g_m + C_3 L_1 L_3 + 2 C_4 L_1 L_3 R_1 g_m + 2 C_4 L_1 L_3 \right) + s^2 \left( C_1 L_1 R_1 + C_3 L_3 R_1 + 2 C_4 L_3 R_1 \right) + s \left( L_1 R_1 g_m + L_1 \right)}$$

**10.785 INVALID-ORDER-785** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1 L_3 R_1 R_4 g_m s^2}{R_1 R_4 + s^4 \left( C_1 C_3 L_1 L_3 R_1 R_4 + 2 C_1 C_4 L_1 L_3 R_1 R_4 \right) + s^3 \left( 2 C_1 L_1 L_3 R_1 + C_3 L_1 L_3 R_1 R_4 g_m + C_3 L_1 L_3 R_4 + 2 C_4 L_1 L_3 R_1 R_4 g_m + 2 C_4 L_1 L_3 R_4 \right) + s^2 \left( C_1 L_1 R_1 R_4 + C_3 L_3 R_1 R_4 + 2 C_4 L_3 R_1 R_4 + 2 L_1 L_3 R_1 g_m + 2 L_1 L_3 \right) + s \left( L_1 R_1 R_4 g_m + L_1 R_4 + 2 L_3 R_1 \right)}$$

**10.786 INVALID-ORDER-786** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_3 R_1 R_4 g_m s^3 + L_1 L_3 R_1 g_m s^2}{C_1 C_3 C_4 L_1 L_3 R_1 R_4 s^5 + R_1 + s^4 \left( C_1 C_3 L_1 L_3 R_1 + 2 C_1 C_4 L_1 L_3 R_1 + C_3 C_4 L_1 L_3 R_1 R_4 g_m + C_3 C_4 L_1 L_3 R_4 \right) + s^3 \left( C_1 C_4 L_1 R_1 R_4 + C_3 C_4 L_3 R_1 R_4 + C_3 L_1 L_3 R_1 g_m + C_3 L_1 L_3 + 2 C_4 L_1 L_3 R_1 g_m + 2 C_4 L_1 L_3 \right) + s^2 \left( C_1 L_1 R_1 + C_3 L_3 R_1 + C_4 L_1 R_1 R_4 g_m + C_4 L_1 R_4 + 2 C_4 L_3 R \ldots \right.}$$

**10.787 INVALID-ORDER-787** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_3 L_4 R_1 g_m s^4 + L_1 L_3 R_1 g_m s^2}{C_1 C_3 C_4 L_1 L_3 L_4 R_1 s^6 + R_1 + s^5 \left( C_3 C_4 L_1 L_3 L_4 R_1 g_m + C_3 C_4 L_1 L_3 L_4 \right) + s^4 \left( C_1 C_3 L_1 L_3 R_1 + 2 C_1 C_4 L_1 L_3 R_1 + C_1 C_4 L_1 L_4 R_1 + C_3 C_4 L_3 L_4 R_1 \right) + s^3 \left( C_3 L_1 L_3 R_1 g_m + C_3 L_1 L_3 + 2 C_4 L_1 L_3 R_1 g_m + 2 C_4 L_1 L_3 + C_4 L_1 L_4 R_1 g_m + C_4 L_1 L_4 \right) + s^2 \left( C_1 L_1 R_1 + C_3 L_3 R_1 + 2 C_4 L \ldots \right.}$$

**10.788 INVALID-ORDER-788** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1 L_3 L_4 R_1 g_m s^2}{2 L_3 R_1 + L_4 R_1 + s^4 \left( C_1 C_3 L_1 L_3 L_4 R_1 + 2 C_1 C_4 L_1 L_3 L_4 R_1 \right) + s^3 \left( C_3 L_1 L_3 L_4 R_1 g_m + C_3 L_1 L_3 L_4 + 2 C_4 L_1 L_3 L_4 R_1 g_m + 2 C_4 L_1 L_3 L_4 \right) + s^2 \left( 2 C_1 L_1 L_3 R_1 + C_1 L_1 L_4 R_1 + C_3 L_3 L_4 R_1 + 2 C_4 L_3 L_4 R_1 \right) + s \left( 2 L_1 L_3 R_1 g_m + 2 L_1 L_3 + L_1 L_4 R_1 g_m + L_1 L_4 \right)}$$

**10.789 INVALID-ORDER-789** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_3 L_4 R_1 g_m s^4 + C_4 L_1 L_3 R_1 R_4 g_m s^3 + L_1 L_3 R_1 g_m s^2}{C_1 C_3 C_4 L_1 L_3 L_4 R_1 s^6 + R_1 + s^5 \left( C_1 C_3 C_4 L_1 L_3 R_1 R_4 + C_3 C_4 L_1 L_3 L_4 R_1 g_m + C_3 C_4 L_1 L_3 L_4 \right) + s^4 \left( C_1 C_3 L_1 L_3 R_1 + 2 C_1 C_4 L_1 L_3 R_1 + C_1 C_4 L_1 L_4 R_1 + C_3 C_4 L_1 L_3 R_1 R_4 g_m + C_3 C_4 L_1 L_3 R_4 + C_3 C_4 L_3 L_4 R_1 \right) + s^3 \left( C_1 C_4 L_1 R_1 R_4 + C_3 C_4 L_3 R_1 R_4 + C_3 L_1 L_3 R_1 g_m + C_3 L_1 \ldots \right.}$$

**10.790 INVALID-ORDER-790** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{L_1 L_3 L_4 R_1 R_4 g_m s^2}{2 L_3 R_1 R_4 + L_4 R_1 R_4 + s^4 \left( C_1 C_3 L_1 L_3 L_4 R_1 R_4 + 2 C_1 C_4 L_1 L_3 L_4 R_1 R_4 \right) + s^3 \left( 2 C_1 L_1 L_3 L_4 R_1 + C_3 L_1 L_3 L_4 R_1 R_4 g_m + C_3 L_1 L_3 L_4 R_4 + 2 C_4 L_1 L_3 L_4 R_1 R_4 g_m + 2 C_4 L_1 L_3 L_4 R_4 \right) + s^2 \left( 2 C_1 L_1 L_3 R_1 R_4 + C_1 L_1 L_4 R_1 R_4 + C_3 L_3 L_4 R_1 R_4 + 2 C_4 L_3 L_4 R_1 R_4 + 2 L_1 L_3 L_4 R_1 g_m + \ldots \right.}$$

**10.791 INVALID-ORDER-791** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_3 L_4 R_1 R_4 g_m s^4 + L_1 L_3 L_4 R_1 g_m \ldots}{C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_4 s^6 + R_1 R_4 + s^5 \left( C_1 C_3 C_4 L_1 L_3 L_4 R_1 + 2 C_1 C_4 L_1 L_3 L_4 R_1 + C_3 C_4 L_1 L_3 L_4 R_1 R_4 g_m + C_3 C_4 L_1 L_3 L_4 R_4 \right) + s^4 \left( C_1 C_3 L_1 L_3 R_1 R_4 + C_1 C_4 L_1 L_4 R_1 R_4 + C_3 C_4 L_3 L_4 R_1 R_4 + C_3 L_1 L_3 L_4 R_1 g_m + C_3 L_1 L_3 L_4 + 2 C_4 L_1 L_3 L_4 R_1 g_m + 2 C_4 L_1 L_3 L_4 \right) + s^3 \left( 2 C_1 L_1 \ldots \right.}$$

**10.792  INVALID-ORDER-792** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{R_4 \left( C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_4 L_1 L_3 L_4 R_1 R_4 g_m s^4 + L_1 L_3 R_1 R_4 g_m s^2}{C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_4 s^6 + R_1 R_4 + s^5 \left( 2 C_1 C_4 L_1 L_3 L_4 R_1 + C_3 C_4 L_1 L_3 L_4 R_1 R_4 g_m + C_3 C_4 L_1 L_3 L_4 R_4 \right) + s^4 \left( C_1 C_3 L_1 L_3 R_1 R_4 + 2 C_1 C_4 L_1 L_3 R_1 R_4 + C_1 C_4 L_1 L_4 R_1 R_4 + C_3 C_4 L_3 L_4 R_1 R_4 + 2 C_4 L_1 L_3 L_4 R_1 g_m + 2 C_4 L_1 L_3 L_4 \right) + s^3 \left( 2 C_1 L_1 L_3 R_1 + C_3 L_1 L_3 R_1 R_4 g_m + C_3 L_1 \cdots \right)}$$

**10.793  INVALID-ORDER-793** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_1 L_3 R_1 R_4 g_m s^3 + C_3 L_1 R_1 R_3 R_4 g_m s^2 + L_1 R_1 R_4 g_m s}{2 C_1 C_3 L_1 L_3 R_1 s^4 + 2 R_1 + s^3 \left( 2 C_1 C_3 L_1 R_1 R_3 + C_1 C_3 L_1 R_1 R_4 + 2 C_3 L_1 L_3 R_1 g_m + 2 C_3 L_1 L_3 \right) + s^2 \left( 2 C_1 L_1 R_1 + 2 C_3 L_1 R_1 R_3 g_m + C_3 L_1 R_1 R_4 g_m + 2 C_3 L_1 R_3 + C_3 L_1 R_4 + 2 C_3 L_3 R_1 \right) + s \left( 2 C_3 R_1 R_3 + C_3 R_1 R_4 + 2 L_1 R_1 g_m + 2 L_1 \right)}$$

**10.794  INVALID-ORDER-794** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_1 L_3 R_1 g_m s^2 + C_3 L_1 R_1 R_3 g_m s + L_1 R_1 g_m}{2 C_1 C_3 C_4 L_1 L_3 R_1 s^4 + C_3 R_1 + 2 C_4 R_1 + s^3 \left( 2 C_1 C_3 C_4 L_1 R_1 R_3 + 2 C_3 C_4 L_1 L_3 R_1 g_m + 2 C_3 C_4 L_1 L_3 \right) + s^2 \left( C_1 C_3 L_1 R_1 + 2 C_1 C_4 L_1 R_1 + 2 C_3 C_4 L_1 R_1 R_3 g_m + 2 C_3 C_4 L_1 R_3 + 2 C_3 C_4 L_3 R_1 \right) + s \left( 2 C_3 C_4 R_1 R_3 + C_3 L_1 R_1 g_m + C_3 L_1 + 2 C_4 L_1 R_1 g_m + 2 C_4 L_1 \right)}$$

**10.795  INVALID-ORDER-795** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_1 L_3 R_1 R_4 g_m s^3 + C_3 L_1 R_1 R_3 R_4 g_m s^2 + L_1 R_1 R_4 g_m s}{2 C_1 C_3 C_4 L_1 L_3 R_1 R_4 s^5 + 2 R_1 + s^4 \left( 2 C_1 C_3 C_4 L_1 R_1 R_3 R_4 + 2 C_1 C_3 L_1 L_3 R_1 + 2 C_3 C_4 L_1 L_3 R_1 R_4 g_m + 2 C_3 C_4 L_1 L_3 R_4 \right) + s^3 \left( 2 C_1 C_3 L_1 R_1 R_3 + C_1 C_3 L_1 R_1 R_4 + 2 C_1 C_4 L_1 R_1 R_4 + 2 C_3 C_4 L_1 R_1 R_3 R_4 g_m + 2 C_3 C_4 L_3 R_1 R_4 + 2 C_3 L_1 L_3 R_1 g_m + 2 C_3 L_1 L_3 \right) + \cdots}$$

**10.796  INVALID-ORDER-796** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 R_1 R_4 g_m s^3 + L_1 R_1 g_m + s^2 \left( C_3 C_4 L_1 R_1 R_3 R_4 g_m + C_3 L_1 L_3 R_1 g_m \right) + s \left( C_3 L_1 R_1 R_3 g_m + C_4 L_1 R_1 R_4 g_m \right)}{2 C_1 C_3 C_4 L_1 L_3 R_1 s^4 + C_3 R_1 + 2 C_4 R_1 + s^3 \left( 2 C_1 C_3 C_4 L_1 R_1 R_3 + C_1 C_3 C_4 L_1 R_1 R_4 + 2 C_3 C_4 L_1 L_3 R_1 g_m + 2 C_3 C_4 L_1 L_3 \right) + s^2 \left( C_1 C_3 L_1 R_1 + 2 C_1 C_4 L_1 R_1 + 2 C_3 C_4 L_1 R_1 R_3 g_m + C_3 C_4 L_1 R_1 R_4 g_m + 2 C_3 C_4 L_1 R_3 + C_3 C_4 L_1 R_4 + 2 C_3 C_4 L_3 R_1 \right) + s \left( 2 C_3 C_4 R_1 R_3 + C_3 C_4 R_1 \cdots \right)}$$

**10.797  INVALID-ORDER-797** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 R_1 g_m s^4 + C_3 C_4 L_1 L_4 R_1 R_3 g_m s^3 + C_3 L_1 R_1 R_3 g_m s + L_1 R_1 g_m + s^2 \left( C_3 L_1 L_3 R_1 g_m + C_4 L_1 L_4 R_1 g_m \right)}{C_3 R_1 + 2 C_4 R_1 + s^4 \left( 2 C_1 C_3 C_4 L_1 L_3 R_1 + C_1 C_3 C_4 L_1 L_4 R_1 \right) + s^3 \left( 2 C_1 C_3 C_4 L_1 R_1 R_3 + 2 C_3 C_4 L_1 L_3 R_1 g_m + 2 C_3 C_4 L_1 L_3 + C_3 C_4 L_1 L_4 R_1 g_m + C_3 C_4 L_1 L_4 \right) + s^2 \left( C_1 C_3 L_1 R_1 + 2 C_1 C_4 L_1 R_1 + 2 C_3 C_4 L_1 R_1 R_3 g_m + 2 C_3 C_4 L_1 R_3 + 2 C_3 C_4 L_3 R_1 + C_3 C_4 L_4 R_1 \right) + s \left( 2 C_3 C_4 R_1 \cdots \right)}$$

**10.798  INVALID-ORDER-798** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 L_1 L_3 L_4 R_1 g_m s^4 + C_3 L_1 L_4 R_1 R_3 g_m s^3 + L_1 L_4 R_1 g_m s^2}{2 C_1 C_3 C_4 L_1 L_3 L_4 R_1 s^6 + 2 R_1 + s^5 \left( 2 C_1 C_3 C_4 L_1 L_4 R_1 R_3 + 2 C_3 C_4 L_1 L_3 L_4 R_1 g_m + 2 C_3 C_4 L_1 L_3 L_4 \right) + s^4 \left( 2 C_1 C_3 L_1 L_3 R_1 + C_1 C_3 L_1 L_4 R_1 + 2 C_1 C_4 L_1 L_4 R_1 + 2 C_3 C_4 L_1 L_4 R_1 R_3 g_m + 2 C_3 C_4 L_1 L_4 R_3 + 2 C_3 C_4 L_3 L_4 R_1 \right) + s^3 \left( 2 C_1 C_3 L_1 R_1 R_3 + 2 C_3 C_4 L_4 R_1 R_3 + 2 C_3 L_1 L_3 \cdots \right)}$$

**10.799  INVALID-ORDER-799** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 R_1 g_m s^4 + L_1 R_1 g_m + s^3 \left( C_3 C_4 L_1 L_3 R_1 R_4 g_m + C_3 C_4 L_1 L_4 R_1 R_3 g_m \right) + s^2 \left( C_3 C_4 L_1 R_1 R_3 R_4 g_m + C_3 L_1 L_3 R_1 g_m + C_4 L_1 L_4 R_1 g_m \right) + s \left( C_3 L_1 R_1 R_3 g_m \cdots \right)}{C_3 R_1 + 2 C_4 R_1 + s^4 \left( 2 C_1 C_3 C_4 L_1 L_3 R_1 + C_1 C_3 C_4 L_1 L_4 R_1 \right) + s^3 \left( 2 C_1 C_3 C_4 L_1 R_1 R_3 + C_1 C_3 C_4 L_1 R_1 R_4 + 2 C_3 C_4 L_1 L_3 R_1 g_m + 2 C_3 C_4 L_1 L_3 + C_3 C_4 L_1 L_4 R_1 g_m + C_3 C_4 L_1 L_4 \right) + s^2 \left( C_1 C_3 L_1 R_1 + 2 C_1 C_4 L_1 R_1 + 2 C_3 C_4 L_1 R_1 R_3 g_m + C_3 C_4 L_1 R_1 R_4 g_m + 2 C_3 C_4 L_1 R_3 + C \cdots \right)}$$

**10.800  INVALID-ORDER-800** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{}{2 C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_4 s^6 + 2 R_1 R_4 + s^5 \left( 2 C_1 C_3 C_4 L_1 L_4 R_1 R_3 R_4 + 2 C_1 C_3 L_1 L_3 L_4 R_1 + 2 C_3 C_4 L_1 L_3 L_4 R_1 R_4 g_m + 2 C_3 C_4 L_1 L_3 L_4 R_4 \right) + s^4 \left( 2 C_1 C_3 L_1 L_3 R_1 R_4 + 2 C_1 C_3 L_1 L_4 R_1 R_3 + C_1 C_3 L_1 L_4 R_1 R_4 + 2 C_1 C_4 L_1 L_4 R_1 R_4 + 2 C_3 C_4 L_1 L_4 R_1 R_3 R_4 g_m + 2 C_3 C_4 L_1 L_4 R_3 \cdots \right)}$$

**10.801  INVALID-ORDER-801** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 R_1 R_4 g_m s^5 + L_1 R_1 R_4 g_m s + s^4 \left( C_3 C_4 L_1 L_4 R_1 R_3 \cdots \right)}{2 C_1 C_3 C_4 L_1 L_3 L_4 R_1 s^6 + 2 R_1 + s^5 \left( 2 C_1 C_3 C_4 L_1 L_4 R_1 R_3 + C_1 C_3 C_4 L_1 L_4 R_1 R_4 + 2 C_3 C_4 L_1 L_3 L_4 R_1 g_m + 2 C_3 C_4 L_1 L_3 L_4 \right) + s^4 \left( 2 C_1 C_3 L_1 L_3 R_1 + C_1 C_3 L_1 L_4 R_1 + 2 C_1 C_4 L_1 L_4 R_1 + 2 C_3 C_4 L_1 L_4 R_1 R_3 g_m + C_3 C_4 L_1 L_4 R_1 R_4 g_m + 2 C_3 C_4 L_1 L_4 R_3 + C_3 C_4 L_1 L_4 R_4 + 2 C_3 C_4 \cdots \right)}$$

**10.802** **INVALID-ORDER-802** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{R_4 \left( C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$H(s) = \frac{}{2 C_1 C_3 C_4 L_1 L_3 L_4 R_1 s^6 + 2 R_1 + s^5 \left( 2 C_1 C_3 C_4 L_1 L_3 R_1 R_4 + 2 C_1 C_3 C_4 L_1 L_4 R_1 R_3 + C_1 C_3 C_4 L_1 L_4 R_1 R_4 + 2 C_3 C_4 L_1 L_3 L_4 R_1 g_m + 2 C_3 C_4 L_1 L_3 L_4 \right) + s^4 \left( 2 C_1 C_3 C_4 L_1 R_1 R_3 R_4 + 2 C_1 C_3 L_1 L_3 R_1 + 2 C_1 C_4 L_1 L_4 R_1 + 2 C_3 C_4 L_1 L_3 R_1 R_4 g_m + 2 C_3 C_4 L_1 L_3 R_4 + 2 C_3 C_4 L_1 L_4 R_1}}$

**10.803** **INVALID-ORDER-803** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ R_4, \ \infty, \ \infty \right)$

$H(s) = \frac{L_1 L_3 R_1 R_3 R_4 g_m s^2}{C_1 C_3 L_1 L_3 R_1 R_3 R_4 s^4 + R_1 R_3 R_4 + s^3 \left( 2 C_1 L_1 L_3 R_1 R_3 + C_1 L_1 L_3 R_1 R_4 + C_3 L_1 L_3 R_1 R_3 R_4 g_m + C_3 L_1 L_3 R_3 R_4 \right) + s^2 \left( C_1 L_1 R_1 R_3 R_4 + C_3 L_3 R_1 R_3 R_4 + 2 L_1 L_3 R_1 R_3 g_m + L_1 L_3 R_1 R_4 g_m + 2 L_1 L_3 R_3 + L_1 L_3 R_4 \right) + s \left( L_1 R_1 R_3 R_4 g_m + L_1 R_3 R_4 + 2 L_3 R_1 R_3 + L_3 R_1 R_4 \right)}$

**10.804** **INVALID-ORDER-804** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{L_1 L_3 R_1 R_3 g_m s^2}{R_1 R_3 + s^4 \left( C_1 C_3 L_1 L_3 R_1 R_3 + 2 C_1 C_4 L_1 L_3 R_1 R_3 \right) + s^3 \left( C_1 L_1 L_3 R_1 + C_3 L_1 L_3 R_1 R_3 g_m + C_3 L_1 L_3 R_3 + 2 C_4 L_1 L_3 R_1 R_3 g_m + 2 C_4 L_1 L_3 R_3 \right) + s^2 \left( C_1 L_1 R_1 R_3 + C_3 L_3 R_1 R_3 + 2 C_4 L_3 R_1 R_3 + L_1 L_3 R_1 g_m + L_1 L_3 \right) + s \left( L_1 R_1 R_3 g_m + L_1 R_3 + L_3 R_1 \right)}$

**10.805** **INVALID-ORDER-805** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$H(s) = \frac{L_1 L_3 R_1 R_3 R_4 g_m s^2}{R_1 R_3 R_4 + s^4 \left( C_1 C_3 L_1 L_3 R_1 R_3 R_4 + 2 C_1 C_4 L_1 L_3 R_1 R_3 R_4 \right) + s^3 \left( 2 C_1 L_1 L_3 R_1 R_3 + C_1 L_1 L_3 R_1 R_4 + C_3 L_1 L_3 R_1 R_3 R_4 g_m + C_3 L_1 L_3 R_3 R_4 + 2 C_4 L_1 L_3 R_1 R_3 R_4 g_m + 2 C_4 L_1 L_3 R_3 R_4 \right) + s^2 \left( C_1 L_1 R_1 R_3 R_4 + C_3 L_3 R_1 R_3 R_4 + 2 C_4 L_3 R_1 R_3 R_4 + 2 L_1 L_3 R_1 R_3 g_m + L_1 L_3 R_1 R_4}}$

**10.806** **INVALID-ORDER-806** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_4 L_1 L_3 R_1 R_3 R_4 g_m s^3 + L_1 L_3 R_1 R_3 g_m s^2}{C_1 C_3 C_4 L_1 L_3 R_1 R_3 R_4 s^5 + R_1 R_3 + s^4 \left( C_1 C_3 L_1 L_3 R_1 R_3 + 2 C_1 C_4 L_1 L_3 R_1 R_3 + C_1 C_4 L_1 L_3 R_1 R_4 + C_3 C_4 L_1 L_3 R_1 R_3 R_4 g_m + C_3 C_4 L_1 L_3 R_3 R_4 \right) + s^3 \left( C_1 C_4 L_1 R_1 R_3 R_4 + C_1 L_1 L_3 R_1 + C_3 C_4 L_3 R_1 R_3 R_4 + C_3 L_1 L_3 R_1 R_3 g_m + C_3 L_1 L_3 R_3 + 2 C_4 L_1 L_3 R_1 R_3 g_m + C_4 L_1 L_3 R}}$

**10.807** **INVALID-ORDER-807** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_4 L_1 L_3 L_4 R_1 R_3 g_m s^4 + L_1 L_3 R_1 R_3 g_m s^2}{C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_3 s^6 + R_1 R_3 + s^5 \left( C_1 C_4 L_1 L_3 L_4 R_1 + C_3 C_4 L_1 L_3 L_4 R_1 R_3 g_m + C_3 C_4 L_1 L_3 L_4 R_3 \right) + s^4 \left( C_1 C_3 L_1 L_3 R_1 R_3 + 2 C_1 C_4 L_1 L_3 R_1 R_3 + C_1 C_4 L_1 L_4 R_1 R_3 + C_3 C_4 L_3 L_4 R_1 R_3 + C_4 L_1 L_3 L_4 R_1 g_m + C_4 L_1 L_3 L_4 \right) + s^3 \left( C_1 L_1 L_3 R_1 + C_3 L_1 L_3 R_1 R_3 g_m + C_3 L_1 L_3}}$

**10.808** **INVALID-ORDER-808** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$H(s) = \frac{L_1 L_3 L_4 R_1 R_3 g_m s^2}{2 L_3 R_1 R_3 + L_4 R_1 R_3 + s^4 \left( C_1 C_3 L_1 L_3 L_4 R_1 R_3 + 2 C_1 C_4 L_1 L_3 L_4 R_1 R_3 \right) + s^3 \left( C_1 L_1 L_3 L_4 R_1 + C_3 L_1 L_3 L_4 R_1 R_3 g_m + C_3 L_1 L_3 L_4 R_3 + 2 C_4 L_1 L_3 L_4 R_1 R_3 g_m + 2 C_4 L_1 L_3 L_4 R_3 \right) + s^2 \left( 2 C_1 L_1 L_3 R_1 R_3 + C_1 L_1 L_4 R_1 R_3 + C_3 L_3 L_4 R_1 R_3 + 2 C_4 L_3 L_4 R_1 R_3 + L_1 L_3 L_4 R_1 g_m + L}}$

**10.809** **INVALID-ORDER-809** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{}{C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_3 s^6 + R_1 R_3 + s^5 \left( C_1 C_3 C_4 L_1 L_3 R_1 R_3 R_4 + C_1 C_4 L_1 L_3 L_4 R_1 + C_3 C_4 L_1 L_3 L_4 R_1 R_3 g_m + C_3 C_4 L_1 L_3 L_4 R_3 \right) + s^4 \left( C_1 C_3 L_1 L_3 R_1 R_3 + 2 C_1 C_4 L_1 L_3 R_1 R_3 + C_1 C_4 L_1 L_3 R_1 R_4 + C_1 C_4 L_1 L_4 R_1 R_3 + C_3 C_4 L_1 L_3 R_1 R_3 R_4 g_m + C_3 C_4 L_1 L_3 R_3 R_4 + C_3 C_4 L_1 L}}$

**10.810** **INVALID-ORDER-810** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$H(s) = \frac{L_1 L_3 L_4 R_1 R_3 R_4 g_m s^2}{2 L_3 R_1 R_3 R_4 + L_4 R_1 R_3 R_4 + s^4 \left( C_1 C_3 L_1 L_3 L_4 R_1 R_3 R_4 + 2 C_1 C_4 L_1 L_3 L_4 R_1 R_3 R_4 \right) + s^3 \left( 2 C_1 L_1 L_3 L_4 R_1 R_3 + C_1 L_1 L_3 L_4 R_1 R_4 + C_3 L_1 L_3 L_4 R_1 R_3 R_4 g_m + C_3 L_1 L_3 L_4 R_3 R_4 + 2 C_4 L_1 L_3 L_4 R_1 R_3 R_4 g_m + 2 C_4 L_1 L_3 L_4 R_3 R_4 \right) + s^2 \left( 2 C_1 L_1 L_3 R_1 R_3 R_4 + C_1 L_1 L_4 R_1 R_3 R_4 + C}}$

**10.811** **INVALID-ORDER-811** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$H(s) = \frac{}{C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_3 R_4 s^6 + R_1 R_3 R_4 + s^5 \left( C_1 C_3 L_1 L_3 L_4 R_1 R_3 + 2 C_1 C_4 L_1 L_3 L_4 R_1 R_3 + C_1 C_4 L_1 L_3 L_4 R_1 R_4 + C_3 C_4 L_1 L_3 L_4 R_1 R_3 R_4 g_m + C_3 C_4 L_1 L_3 L_4 R_3 R_4 \right) + s^4 \left( C_1 C_3 L_1 L_3 R_1 R_3 R_4 + C_1 C_4 L_1 L_4 R_1 R_3 R_4 + C_1 L_1 L_3 L_4 R_1 + C_3 C_4 L_3 L_4 R_1 R_3 R_4 + C_3 L_1 L_3 L_4 R_1 R}}$

**10.812 INVALID-ORDER-812** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{}{C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_3 R_4 s^6 + R_1 R_3 R_4 + s^5 \left(2 C_1 C_4 L_1 L_3 L_4 R_1 R_3 + C_1 C_4 L_1 L_3 L_4 R_1 R_4 + C_3 C_4 L_1 L_3 L_4 R_1 R_3 R_4 g_m + C_3 C_4 L_1 L_3 L_4 R_3 R_4\right) + s^4 \left(C_1 C_3 L_1 L_3 R_1 R_3 R_4 + 2 C_1 C_4 L_1 L_3 R_1 R_3 R_4 + C_1 C_4 L_1 L_4 R_1 R_3 R_4 + C_3 C_4 L_3 L_4 R_1 R_3 R_4 + 2 C_4 L_1 L_3 L_4 R_1 R_3 g_m + C_4 L_1 L \cdots}$

**10.813 INVALID-ORDER-813** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ R_4, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_3 L_1 L_3 R_1 R_3 R_4 g_m s^3 + L_1 L_3 R_1 R_4 g_m s^2 + L_1 R_1 R_3 R_4 g_m s}{2 R_1 R_3 + R_1 R_4 + s^4 \left(2 C_1 C_3 L_1 L_3 R_1 R_3 + C_1 C_3 L_1 L_3 R_1 R_4\right) + s^3 \left(2 C_1 L_1 L_3 R_1 + 2 C_3 L_1 L_3 R_1 R_3 g_m + C_3 L_1 L_3 R_1 R_4 g_m + 2 C_3 L_1 L_3 R_3 + C_3 L_1 L_3 R_4\right) + s^2 \left(2 C_1 L_1 R_1 R_3 + C_1 L_1 R_1 R_4 + 2 C_3 L_3 R_1 R_3 + C_3 L_3 R_1 R_4 + 2 L_1 L_3 R_1 g_m + 2 L_1 L_3\right) + s \left(2 L_1 R_1 R_3 g_m + L_1 R_1 R_4 \cdots\right)}$

**10.814 INVALID-ORDER-814** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_3 L_1 L_3 R_1 R_3 g_m s^3 + L_1 L_3 R_1 g_m s^2 + L_1 R_1 R_3 g_m s}{2 C_1 C_3 C_4 L_1 L_3 R_1 R_3 s^5 + R_1 + s^4 \left(C_1 C_3 L_1 L_3 R_1 + 2 C_1 C_4 L_1 L_3 R_1 + 2 C_3 C_4 L_1 L_3 R_1 R_3 g_m + 2 C_3 C_4 L_1 L_3 R_3\right) + s^3 \left(2 C_1 C_4 L_1 R_1 R_3 + 2 C_3 C_4 L_3 R_1 R_3 + C_3 L_1 L_3 R_1 g_m + C_3 L_1 L_3 + 2 C_4 L_1 L_3 R_1 g_m + 2 C_4 L_1 L_3\right) + s^2 \left(C_1 L_1 R_1 + C_3 L_3 R_1 + 2 C_4 L_1 R_1 R_3 g_m + 2 C_4 L_1 R_3 + \cdots\right)}$

**10.815 INVALID-ORDER-815** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_3 L_1 L_3 R_1 R_3 R_4 g_m s^3 + L \cdots}{2 C_1 C_3 C_4 L_1 L_3 R_1 R_3 R_4 s^5 + 2 R_1 R_3 + R_1 R_4 + s^4 \left(2 C_1 C_3 L_1 L_3 R_1 R_3 + C_1 C_3 L_1 L_3 R_1 R_4 + 2 C_1 C_4 L_1 L_3 R_1 R_4 + 2 C_3 C_4 L_1 L_3 R_1 R_3 R_4 g_m + 2 C_3 C_4 L_1 L_3 R_3 R_4\right) + s^3 \left(2 C_1 C_4 L_1 R_1 R_3 R_4 + 2 C_1 L_1 L_3 R_1 + 2 C_3 C_4 L_3 R_1 R_3 R_4 + 2 C_3 L_1 L_3 R_1 R_3 g_m + C_3 L_1 L_3 R_1 R_4 g_m + 2 C_3 L_1 \cdots\right)}$

**10.816 INVALID-ORDER-816** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_3 C_4 L_1 L_3 R_1 R_3 R_4 g_m s^4 + L_1 R_1 R_3 g_m s + s^3 \left(C_3 L_1 L_3 R_1 R_3 g_m + C_4 L_1 L_3 R_1 R_4 g_m\right) + s^2 \left(C_4 L_1 R_1 R_3 R_4 \cdots\right)}{R_1 + s^5 \left(2 C_1 C_3 C_4 L_1 L_3 R_1 R_3 + C_1 C_3 C_4 L_1 L_3 R_1 R_4\right) + s^4 \left(C_1 C_3 L_1 L_3 R_1 + 2 C_1 C_4 L_1 L_3 R_1 + 2 C_3 C_4 L_1 L_3 R_1 R_3 g_m + C_3 C_4 L_1 L_3 R_1 R_4 g_m + 2 C_3 C_4 L_1 L_3 R_3 + C_3 C_4 L_1 L_3 R_4\right) + s^3 \left(2 C_1 C_4 L_1 R_1 R_3 + C_1 C_4 L_1 R_1 R_4 + 2 C_3 C_4 L_3 R_1 R_3 + C_3 C_4 L_3 R_1 R_4 + C_3 L_1 L_3 R_1 g_m + C \cdots\right)}$

**10.817 INVALID-ORDER-817** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_3 C_4 L_1 L_3 L_4 R_1 R_3 g_m s^5 + C_4 L_1 L_3 L_4 R_1 g_m s^4 + L_1 L_3 R_1 g_m s^2 + L_1 R_1 R_3 g_m s + s^3 \left(C_3 L_1 L_3 R_1 R_3 g_m + \cdots\right)}{C_1 C_3 C_4 L_1 L_3 L_4 R_1 s^6 + R_1 + s^5 \left(2 C_1 C_3 C_4 L_1 L_3 R_1 R_3 + C_3 C_4 L_1 L_3 L_4 R_1 g_m + C_3 C_4 L_1 L_3 L_4\right) + s^4 \left(C_1 C_3 L_1 L_3 R_1 + 2 C_1 C_4 L_1 L_3 R_1 + C_1 C_4 L_1 L_4 R_1 + 2 C_3 C_4 L_1 L_3 R_1 R_3 g_m + 2 C_3 C_4 L_1 L_3 R_3 + C_3 C_4 L_3 L_4 R_1\right) + s^3 \left(2 C_1 C_4 L_1 R_1 R_3 + 2 C_3 C_4 L_3 R_1 R_3 + C_3 L_1 L_3 R_1 g_m + \cdots\right)}$

**10.818 INVALID-ORDER-818** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_3 L_1 L_3 L_4 R_1 R_3 g_m s^4 + L \cdots}{2 C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_3 s^6 + 2 R_1 R_3 + s^5 \left(C_1 C_3 L_1 L_3 L_4 R_1 + 2 C_1 C_4 L_1 L_3 L_4 R_1 + 2 C_3 C_4 L_1 L_3 L_4 R_1 R_3 g_m + 2 C_3 C_4 L_1 L_3 L_4 R_3\right) + s^4 \left(2 C_1 C_3 L_1 L_3 R_1 R_3 + 2 C_1 C_4 L_1 L_4 R_1 R_3 + 2 C_3 C_4 L_3 L_4 R_1 R_3 + C_3 L_1 L_3 L_4 R_1 g_m + C_3 L_1 L_3 L_4 + 2 C_4 L_1 L_3 L_4 R_1 g_m + 2 C_4 L_1 L_3 L_4\right) + s^3 \cdots}$

**10.819 INVALID-ORDER-819** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_3 C_4 L_1 L_3 L_4 R_1 R_3 g_m s^5 + L_1 R_1 R_3 g_m s + s^4 \left(C_3 C_4 L_1 L_3 R_1 R_3 R_4 g_m + \cdots\right)}{C_1 C_3 C_4 L_1 L_3 L_4 R_1 s^6 + R_1 + s^5 \left(2 C_1 C_3 C_4 L_1 L_3 R_1 R_3 + C_1 C_3 C_4 L_1 L_3 R_1 R_4 + C_3 C_4 L_1 L_3 L_4 R_1 g_m + C_3 C_4 L_1 L_3 L_4\right) + s^4 \left(C_1 C_3 L_1 L_3 R_1 + 2 C_1 C_4 L_1 L_3 R_1 + C_1 C_4 L_1 L_4 R_1 + 2 C_3 C_4 L_1 L_3 R_1 R_3 g_m + C_3 C_4 L_1 L_3 R_1 R_4 g_m + 2 C_3 C_4 L_1 L_3 R_3 + C_3 C_4 L_1 L_3 R_4 + C_3 C_4 L_3 L_4 R \cdots\right)}$

**10.820 INVALID-ORDER-820** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{}{2 C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_3 R_4 s^6 + 2 R_1 R_3 R_4 + s^5 \left(2 C_1 C_3 L_1 L_3 L_4 R_1 R_3 + C_1 C_3 L_1 L_3 L_4 R_1 R_4 + 2 C_1 C_4 L_1 L_3 L_4 R_1 R_4 + 2 C_3 C_4 L_1 L_3 L_4 R_1 R_3 R_4 g_m + 2 C_3 C_4 L_1 L_3 L_4 R_3 R_4\right) + s^4 \left(2 C_1 C_3 L_1 L_3 R_1 R_3 R_4 + 2 C_1 C_4 L_1 L_4 R_1 R_3 R_4 + 2 C_1 L_1 L_3 L_4 R_1 + 2 C_3 C_4 L_3 L_4 R_1 R_3 R_4 + 2 C_3 \cdots\right)}$

**10.821 INVALID-ORDER-821** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{}{2 R_1 R_3 + R_1 R_4 + s^6 \left(2 C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_3 + C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_4\right) + s^5 \left(C_1 C_3 L_1 L_3 L_4 R_1 + 2 C_1 C_4 L_1 L_3 L_4 R_1 + 2 C_3 C_4 L_1 L_3 L_4 R_1 R_3 g_m + C_3 C_4 L_1 L_3 L_4 R_1 R_4 g_m + 2 C_3 C_4 L_1 L_3 L_4 R_3 + C_3 C_4 L_1 L_3 L_4 R_4\right) + s^4 \left(2 C_1 C_3 L_1 L_3 R_1 R_3 + C_1 C_3 L_1 L_3 R_1 R_4 + 2 C_1 C_4 L_1 L \cdots\right)}$

**10.822   INVALID-ORDER-822** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{R_4 (C_4 L_4 s^2 + 1)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$H(s) = \frac{}{2 R_1 R_3 + R_1 R_4 + s^6 (2 C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_3 + C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_4) + s^5 (2 C_1 C_3 C_4 L_1 L_3 R_1 R_3 R_4 + 2 C_1 C_4 L_1 L_3 L_4 R_1 + 2 C_3 C_4 L_1 L_3 L_4 R_1 R_3 g_m + C_3 C_4 L_1 L_3 L_4 R_1 R_4 g_m + 2 C_3 C_4 L_1 L_3 L_4 R_3 + C_3 C_4 L_1 L_3 L_4 R_4) + s^4 (2 C_1 C_3 L_1 L_3 R_1 R_3 + C_1 C_3 L_1 L_3 R_1 R_4 + 2 C_1 C_4 ...}$

**10.823   INVALID-ORDER-823** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{R_3 (C_3 L_3 s^2 + 1)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ R_4, \ \infty, \ \infty \right)$

$H(s) = \frac{C_3 L_1 L_3 R_1 R_3 R_4 g_m s^3 + L_1 R_1 R_3 R_4 g_m s}{2 R_1 R_3 + R_1 R_4 + s^4 (2 C_1 C_3 L_1 L_3 R_1 R_3 + C_1 C_3 L_1 L_3 R_1 R_4) + s^3 (C_1 C_3 L_1 R_1 R_3 R_4 + 2 C_3 L_1 L_3 R_1 R_3 g_m + C_3 L_1 L_3 R_1 R_4 g_m + 2 C_3 L_1 L_3 R_3 + C_3 L_1 L_3 R_4) + s^2 (2 C_1 L_1 R_1 R_3 + C_1 L_1 R_1 R_4 + C_3 L_1 R_1 R_3 R_4 g_m + C_3 L_1 R_3 R_4 + 2 C_3 L_3 R_1 R_3 + C_3 L_3 R_1 R_4) + s (C_3 R_1 R_3 ...}$

**10.824   INVALID-ORDER-824** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{R_3 (C_3 L_3 s^2 + 1)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_3 L_1 L_3 R_1 R_3 g_m s^3 + L_1 R_1 R_3 g_m s}{2 C_1 C_3 C_4 L_1 L_3 R_1 R_3 s^5 + R_1 + s^4 (C_1 C_3 L_1 L_3 R_1 + 2 C_3 C_4 L_1 L_3 R_1 R_3 g_m + 2 C_3 C_4 L_1 L_3 R_3) + s^3 (C_1 C_3 L_1 R_1 R_3 + 2 C_1 C_4 L_1 R_1 R_3 + 2 C_3 C_4 L_3 R_1 R_3 + C_3 L_1 L_3 R_1 g_m + C_3 L_1 L_3) + s^2 (C_1 L_1 R_1 + C_3 L_1 R_1 R_3 g_m + C_3 L_1 R_3 + C_3 L_3 R_1 + 2 C_4 L_1 R_1 R_3 g_m + 2 C_4 L_1 R_3) + s ...}$

**10.825   INVALID-ORDER-825** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{R_3 (C_3 L_3 s^2 + 1)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_3 L_1 L_3 R_1 R_3 R_4 g_m s^3 + L_1 R_1 R_3 R_4 g_m s}{2 C_1 C_3 C_4 L_1 L_3 R_1 R_3 R_4 s^5 + 2 R_1 R_3 + R_1 R_4 + s^4 (2 C_1 C_3 L_1 L_3 R_1 R_3 + C_1 C_3 L_1 L_3 R_1 R_4 + 2 C_3 C_4 L_1 L_3 R_1 R_3 R_4 g_m + 2 C_3 C_4 L_1 L_3 R_3 R_4) + s^3 (C_1 C_3 L_1 R_1 R_3 R_4 + 2 C_1 C_4 L_1 R_1 R_3 R_4 + 2 C_3 C_4 L_3 R_1 R_3 R_4 + 2 C_3 L_1 L_3 R_1 R_3 g_m + C_3 L_1 L_3 R_1 R_4 g_m + 2 C_3 L_1 L_3 R_3 + C_3 L_1 L ...}$

**10.826   INVALID-ORDER-826** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{R_3 (C_3 L_3 s^2 + 1)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_3 C_4 L_1 L_3 R_1 R_3 R_4 g_m s^4 + C_3 L_1 L_3 R_1 R_3 g_m s^3 + ...}{R_1 + s^5 (2 C_1 C_3 C_4 L_1 L_3 R_1 R_3 + C_1 C_3 C_4 L_1 L_3 R_1 R_4) + s^4 (C_1 C_3 C_4 L_1 R_1 R_3 R_4 + C_1 C_3 L_1 L_3 R_1 + 2 C_3 C_4 L_1 L_3 R_1 R_3 g_m + C_3 C_4 L_1 L_3 R_1 R_4 g_m + 2 C_3 C_4 L_1 L_3 R_3 + C_3 C_4 L_1 L_3 R_4) + s^3 (C_1 C_3 L_1 R_1 R_3 + 2 C_1 C_4 L_1 R_1 R_3 + C_1 C_4 L_1 R_1 R_4 + C_3 C_4 L_1 R_1 R_3 R_4 g_m + C_3 C_4 L_1 ...}$

**10.827   INVALID-ORDER-827** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{R_3 (C_3 L_3 s^2 + 1)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_3 C_4 L_1 L_3 L_4 R_1 R_3 g_m s^5 + L_1 R_1 R_3 g_m s + s^3 (C ...}{C_1 C_3 C_4 L_1 L_3 L_4 R_1 s^6 + R_1 + s^5 (2 C_1 C_3 C_4 L_1 L_3 R_1 R_3 + C_1 C_3 C_4 L_1 L_4 R_1 R_3 + C_3 C_4 L_1 L_3 L_4 R_1 g_m + C_3 C_4 L_1 L_3 L_4) + s^4 (C_1 C_3 L_1 L_3 R_1 + C_1 C_4 L_1 L_4 R_1 + 2 C_3 C_4 L_1 L_3 R_1 R_3 g_m + 2 C_3 C_4 L_1 L_3 R_3 + C_3 C_4 L_1 L_4 R_1 R_3 g_m + C_3 C_4 L_1 L_4 R_3 + C_3 C_4 L_3 L_4 R_1) + s^3 (C_1 C_3 L_1 R ...}$

**10.828   INVALID-ORDER-828** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{R_3 (C_3 L_3 s^2 + 1)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_3 L_1 L_3 L_4 R_1 R_3 g_m s^4 + L_1 L_4 R_1 R_3 g_m s^2}{2 C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_3 s^6 + 2 R_1 R_3 + s^5 (C_1 C_3 L_1 L_3 L_4 R_1 + 2 C_3 C_4 L_1 L_3 L_4 R_1 R_3 g_m + 2 C_3 C_4 L_1 L_3 L_4 R_3) + s^4 (2 C_1 C_3 L_1 L_3 R_1 R_3 + C_1 C_3 L_1 L_4 R_1 R_3 + 2 C_1 C_4 L_1 L_4 R_1 R_3 + 2 C_3 C_4 L_3 L_4 R_1 R_3 + C_3 L_1 L_3 L_4 R_1 g_m + C_3 L_1 L_3 L_4) + s^3 (C_1 L_1 L_4 R_1 + 2 C_3 L_1 L_3 R_1 R_3 g_m + ...}$

**10.829   INVALID-ORDER-829** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{R_3 (C_3 L_3 s^2 + 1)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{}{C_1 C_3 C_4 L_1 L_3 L_4 R_1 s^6 + R_1 + s^5 (2 C_1 C_3 C_4 L_1 L_3 R_1 R_3 + C_1 C_3 C_4 L_1 L_3 R_1 R_4 + C_1 C_3 C_4 L_1 L_4 R_1 R_3 + C_3 C_4 L_1 L_3 L_4 R_1 g_m + C_3 C_4 L_1 L_3 L_4) + s^4 (C_1 C_3 C_4 L_1 R_1 R_3 R_4 + C_1 C_3 L_1 L_3 R_1 + C_1 C_4 L_1 L_4 R_1 + 2 C_3 C_4 L_1 L_3 R_1 R_3 g_m + C_3 C_4 L_1 L_3 R_1 R_4 g_m + 2 C_3 C_4 L_1 L_3 R_3 + C_3 ...}$

**10.830   INVALID-ORDER-830** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{R_3 (C_3 L_3 s^2 + 1)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$H(s) = \frac{}{2 C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_3 R_4 s^6 + 2 R_1 R_3 R_4 + s^5 (2 C_1 C_3 L_1 L_3 L_4 R_1 R_3 + C_1 C_3 L_1 L_3 L_4 R_1 R_4 + 2 C_3 C_4 L_1 L_3 L_4 R_1 R_3 R_4 g_m + 2 C_3 C_4 L_1 L_3 L_4 R_3 R_4) + s^4 (2 C_1 C_3 L_1 L_3 R_1 R_3 R_4 + C_1 C_3 L_1 L_4 R_1 R_3 R_4 + 2 C_1 C_4 L_1 L_4 R_1 R_3 R_4 + 2 C_3 C_4 L_3 L_4 R_1 R_3 R_4 + 2 C_3 L_1 L_3 L_4 R_1 R_3 g_m + ...}$

**10.831  INVALID-ORDER-831** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{}{2R_1 R_3 + R_1 R_4 + s^6 \left(2C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_3 + C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_4\right) + s^5 \left(C_1 C_3 C_4 L_1 L_4 R_1 R_3 R_4 + C_1 C_3 L_1 L_3 L_4 R_1 + 2C_3 C_4 L_1 L_3 L_4 R_1 R_3 g_m + C_3 C_4 L_1 L_3 L_4 R_1 R_4 g_m + 2C_3 C_4 L_1 L_3 L_4 R_3 + C_3 C_4 L_1 L_3 L_4 R_4\right) + s^4 \left(2C_1 C_3 L_1 L_3 R_1 R_3 + C_1 C_3 L_1 L_3 R_1 R_4 + C_1 C_3 L_1 \ldots}$

**10.832  INVALID-ORDER-832** $Z(s) = \left( \frac{L_1 R_1 s}{C_1 L_1 R_1 s^2 + L_1 s + R_1}, \ \infty, \ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{}{2R_1 R_3 + R_1 R_4 + s^6 \left(2C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_3 + C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_4\right) + s^5 \left(2C_1 C_3 C_4 L_1 L_3 R_1 R_3 R_4 + C_1 C_3 C_4 L_1 L_4 R_1 R_3 R_4 + 2C_3 C_4 L_1 L_3 L_4 R_1 R_3 g_m + C_3 C_4 L_1 L_3 L_4 R_1 R_4 g_m + 2C_3 C_4 L_1 L_3 L_4 R_3 + C_3 C_4 L_1 L_3 L_4 R_4\right) + s^4 \left(2C_1 C_3 L_1 L_3 R_1 R_3 + C_1 C_3 L_1 L_3 R_1 R_4 + 2C \ldots}$

**10.833  INVALID-ORDER-833** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ R_3, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 L_1 R_1 R_3 g_m s^2 + L_1 R_3 g_m s + R_1 R_3 g_m}{R_1 g_m + s^3 \left(2C_1 C_4 L_1 R_1 R_3 g_m + 2C_1 C_4 L_1 R_3\right) + s^2 \left(C_1 L_1 R_1 g_m + C_1 L_1 + 2C_4 L_1 R_3 g_m\right) + s \left(2C_4 R_1 R_3 g_m + 2C_4 R_3 + L_1 g_m\right) + 1}$$

**10.834  INVALID-ORDER-834** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ R_3, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 L_1 R_1 R_3 R_4 g_m s^2 + L_1 R_3 R_4 g_m s + R_1 R_3 R_4 g_m}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4 + s^3 \left(2C_1 C_4 L_1 R_1 R_3 R_4 g_m + 2C_1 C_4 L_1 R_3 R_4\right) + s^2 \left(2C_1 L_1 R_1 R_3 g_m + C_1 L_1 R_1 R_4 g_m + 2C_1 L_1 R_3 + C_1 L_1 R_4 + 2C_4 L_1 R_3 R_4 g_m\right) + s \left(2C_4 R_1 R_3 R_4 g_m + 2C_4 R_3 R_4 + 2L_1 R_3 g_m + L_1 R_4 g_m\right)}$$

**10.835  INVALID-ORDER-835** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ R_3, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_4 L_1 R_1 R_3 R_4 g_m s^3 + R_1 R_3 g_m + s^2 \left(C_1 L_1 R_1 R_3 g_m + C_4 L_1 R_3 R_4 g_m\right) + s \left(C_4 R_1 R_3 R_4 g_m + L_1 R_3 g_m\right)}{R_1 g_m + s^3 \left(2C_1 C_4 L_1 R_1 R_3 g_m + C_1 C_4 L_1 R_1 R_4 g_m + 2C_1 C_4 L_1 R_3 + C_1 C_4 L_1 R_4\right) + s^2 \left(C_1 L_1 R_1 g_m + C_1 L_1 + 2C_4 L_1 R_3 g_m + C_4 L_1 R_4 g_m\right) + s \left(2C_4 R_1 R_3 g_m + C_4 R_1 R_4 g_m + 2C_4 R_3 + C_4 R_4 + L_1 g_m\right) + 1}$$

**10.836  INVALID-ORDER-836** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ R_3, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_4 L_1 L_4 R_1 R_3 g_m s^4 + C_4 L_1 L_4 R_3 g_m s^3 + L_1 R_3 g_m s + R_1 R_3 g_m + s^2 \left(C_1 L_1 R_1 R_3 g_m + C_4 L_4 R_1 R_3 g_m\right)}{R_1 g_m + s^4 \left(C_1 C_4 L_1 L_4 R_1 g_m + C_1 C_4 L_1 L_4\right) + s^3 \left(2C_1 C_4 L_1 R_1 R_3 g_m + 2C_1 C_4 L_1 R_3 + C_4 L_1 L_4 g_m\right) + s^2 \left(C_1 L_1 R_1 g_m + C_1 L_1 + 2C_4 L_1 R_3 g_m + C_4 L_4 R_1 g_m + C_4 L_4\right) + s \left(2C_4 R_1 R_3 g_m + 2C_4 R_3 + L_1 g_m\right) + 1}$$

**10.837  INVALID-ORDER-837** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ R_3, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 L_1 L_4 R_1 R_3 g_m s^3 + L_1 L_4 R_3 g_m s^2 + L_4 R_1 R_3 g_m s}{2R_1 R_3 g_m + 2R_3 + s^4 \left(2C_1 C_4 L_1 L_4 R_1 R_3 g_m + 2C_1 C_4 L_1 L_4 R_3\right) + s^3 \left(C_1 L_1 L_4 R_1 g_m + C_1 L_1 L_4 + 2C_4 L_1 L_4 R_3 g_m\right) + s^2 \left(2C_1 L_1 R_1 R_3 g_m + 2C_1 L_1 R_3 + 2C_4 L_4 R_1 R_3 g_m + 2C_4 L_4 R_3 + L_1 L_4 g_m\right) + s \left(2L_1 R_3 g_m + L_4 R_1 g_m + L_4\right)}$$

**10.838  INVALID-ORDER-838** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ R_3, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1 C_4 L_1 L_4 R_1 R_3 g_m s^4 + R_1 R_3 g_m + s^3 \left(C_1 C_4 L_1 R_1 R_3 R_4 g_m + C_4 L_1 L_4 R_3 g_m\right) + s^2 \left(C_1 L_1 R_1 R_3 g_m + C_4 L_1 R_3 R_4 g_m + C_4 L_4 R_1 R_3 g_m\right) + s \left(C_4 R_1 R_3 R_4 g_m + L_1 R_3 g_m\right)}{R_1 g_m + s^4 \left(C_1 C_4 L_1 L_4 R_1 g_m + C_1 C_4 L_1 L_4\right) + s^3 \left(2C_1 C_4 L_1 R_1 R_3 g_m + C_1 C_4 L_1 R_1 R_4 g_m + 2C_1 C_4 L_1 R_3 + C_1 C_4 L_1 R_4 + C_4 L_1 L_4 g_m\right) + s^2 \left(C_1 L_1 R_1 g_m + C_1 L_1 + 2C_4 L_1 R_3 g_m + C_4 L_1 R_4 g_m + C_4 L_4 R_1 g_m + C_4 L_4\right) + s \left(2C_4 R_1 R_3 g_m + C_4 R_1 R_4 g_m + 2C_4 R_3 + C_4 R_4 + L_1 \ldots}$

**10.839  INVALID-ORDER-839** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ R_3, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1 L_1 L_4 R_1 R_3 R_4 g_m s^3 + L_1 L_4 R_3 R_4 g_m s^2 + L_4 R_1 R_3 R_4 g_m s}{2R_1 R_3 R_4 g_m + 2R_3 R_4 + s^4 \left(2C_1 C_4 L_1 L_4 R_1 R_3 R_4 g_m + 2C_1 C_4 L_1 L_4 R_3 R_4\right) + s^3 \left(2C_1 L_1 L_4 R_1 R_3 g_m + C_1 L_1 L_4 R_1 R_4 g_m + 2C_1 L_1 L_4 R_3 + C_1 L_1 L_4 R_4 + 2C_4 L_1 L_4 R_3 R_4 g_m\right) + s^2 \left(2C_1 L_1 R_1 R_3 R_4 g_m + 2C_1 L_1 R_3 R_4 + 2C_4 L_4 R_1 R_3 R_4 g_m + 2C_4 L_4 R_3 R_4 + 2L_1 L_4 R_3 g_m + L_1 \ldots}$

**10.840** **INVALID-ORDER-840** $Z(s) = \left( \frac{C_1L_1R_1s^2+L_1s+R_1}{C_1L_1s^2+1}, \ \infty, \ R_3, \ \frac{C_4L_4R_4s^2+L_4s+R_4}{C_4L_4s^2+1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1C_4L_1L_4R_1R_3R_4g_ms^4 + R_1R_3R_4g_m + s^3\left(C_1L_1L_4R_1R_3g_m + C_4L_1L_4R_3R_4g_m\right) + s^2\left(C_1L_1R_1R_3R_4g_m + C_4L_4R_1R_3R_4g_m + L_1L_4R_3g_m\right) + s\left(L_1R_3R_4g_m + L_4R_1R_3g_m\right)}{2R_1R_3g_m + R_1R_4g_m + 2R_3 + R_4 + s^4\left(2C_1C_4L_1L_4R_1R_3g_m + C_1C_4L_1L_4R_1R_4g_m + 2C_1C_4L_1L_4R_3 + C_1C_4L_1L_4R_4\right) + s^3\left(C_1L_1L_4R_1g_m + C_1L_1L_4 + 2C_4L_1L_4R_3g_m + C_4L_1L_4R_4g_m\right) + s^2\left(2C_1L_1R_1R_3g_m + C_1L_1R_1R_4g_m + 2C_1L_1R_3 + C_1L_1R_4 + 2C_4L_4R_1R_3g_m}$$

**10.841** **INVALID-ORDER-841** $Z(s) = \left( \frac{C_1L_1R_1s^2+L_1s+R_1}{C_1L_1s^2+1}, \ \infty, \ R_3, \ \frac{R_4\left(C_4L_4s^2+1\right)}{C_4L_4s^2+C_4R_4s+1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1C_4L_1L_4R_1R_3R_4g_ms^4 + C_4L_1L_4R_3R_4g_ms^3 + L_1R_3R_4g_ms + R_1R_3R_4g_m + s^2\left(C_1L_1R_1R_3R_4g_m + C_4L_4R_1R_3R_4g_m\right)}{2R_1R_3g_m + R_1R_4g_m + 2R_3 + R_4 + s^4\left(2C_1C_4L_1L_4R_1R_3g_m + C_1C_4L_1L_4R_1R_4g_m + 2C_1C_4L_1L_4R_3 + C_1C_4L_1L_4R_4\right) + s^3\left(2C_1C_4L_1R_1R_3R_4g_m + 2C_1C_4L_1R_3R_4 + 2C_4L_1L_4R_3g_m + C_4L_1L_4R_4g_m\right) + s^2\left(2C_1L_1R_1R_3g_m + C_1L_1R_1R_4g_m + 2C_1L_1R_3 + C_1L_1R_4 + 2}$$

**10.842** **INVALID-ORDER-842** $Z(s) = \left( \frac{C_1L_1R_1s^2+L_1s+R_1}{C_1L_1s^2+1}, \ \infty, \ \frac{1}{C_3s}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1L_1R_1R_4g_ms^2 + L_1R_4g_ms + R_1R_4g_m}{2R_1g_m + s^3\left(C_1C_3L_1R_1R_4g_m + C_1C_3L_1R_4\right) + s^2\left(2C_1L_1R_1g_m + 2C_1L_1 + C_3L_1R_4g_m\right) + s\left(C_3R_1R_4g_m + C_3R_4 + 2L_1g_m\right) + 2}$$

**10.843** **INVALID-ORDER-843** $Z(s) = \left( \frac{C_1L_1R_1s^2+L_1s+R_1}{C_1L_1s^2+1}, \ \infty, \ \frac{1}{C_3s}, \ \frac{1}{C_4s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1L_1R_1g_ms^2 + L_1g_ms + R_1g_m}{s^3\left(C_1C_3L_1R_1g_m + C_1C_3L_1 + 2C_1C_4L_1R_1g_m + 2C_1C_4L_1\right) + s^2\left(C_3L_1g_m + 2C_4L_1g_m\right) + s\left(C_3R_1g_m + C_3 + 2C_4R_1g_m + 2C_4\right)}$$

**10.844** **INVALID-ORDER-844** $Z(s) = \left( \frac{C_1L_1R_1s^2+L_1s+R_1}{C_1L_1s^2+1}, \ \infty, \ \frac{1}{C_3s}, \ \frac{R_4}{C_4R_4s+1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1L_1R_1R_4g_ms^2 + L_1R_4g_ms + R_1R_4g_m}{2R_1g_m + s^3\left(C_1C_3L_1R_1R_4g_m + C_1C_3L_1R_4 + 2C_1C_4L_1R_1R_4g_m + 2C_1C_4L_1R_4\right) + s^2\left(2C_1L_1R_1g_m + 2C_1L_1 + C_3L_1R_4g_m + 2C_4L_1R_4g_m\right) + s\left(C_3R_1R_4g_m + C_3R_4 + 2C_4R_1R_4g_m + 2C_4R_4 + 2L_1g_m\right) + 2}$$

**10.845** **INVALID-ORDER-845** $Z(s) = \left( \frac{C_1L_1R_1s^2+L_1s+R_1}{C_1L_1s^2+1}, \ \infty, \ \frac{1}{C_3s}, \ R_4 + \frac{1}{C_4s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1C_4L_1R_1R_4g_ms^3 + R_1g_m + s^2\left(C_1L_1R_1g_m + C_4L_1R_4g_m\right) + s\left(C_4R_1R_4g_m + L_1g_m\right)}{s^4\left(C_1C_3C_4L_1R_1R_4g_m + C_1C_3C_4L_1R_4\right) + s^3\left(C_1C_3L_1R_1g_m + C_1C_3L_1 + 2C_1C_4L_1R_1g_m + 2C_1C_4L_1 + C_3C_4L_1R_4g_m\right) + s^2\left(C_3C_4R_1R_4g_m + C_3C_4R_4 + C_3L_1g_m + 2C_4L_1g_m\right) + s\left(C_3R_1g_m + C_3 + 2C_4R_1g_m + 2C_4\right)}$$

**10.846** **INVALID-ORDER-846** $Z(s) = \left( \frac{C_1L_1R_1s^2+L_1s+R_1}{C_1L_1s^2+1}, \ \infty, \ \frac{1}{C_3s}, \ L_4s + \frac{1}{C_4s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1C_4L_1L_4R_1g_ms^4 + C_4L_1L_4g_ms^3 + L_1g_ms + R_1g_m + s^2\left(C_1L_1R_1g_m + C_4L_4R_1g_m\right)}{C_3C_4L_1L_4g_ms^4 + s^5\left(C_1C_3C_4L_1L_4R_1g_m + C_1C_3C_4L_1L_4\right) + s^3\left(C_1C_3L_1R_1g_m + C_1C_3L_1 + 2C_1C_4L_1R_1g_m + 2C_1C_4L_1 + C_3C_4L_4R_1g_m + C_3C_4L_4\right) + s^2\left(C_3L_1g_m + 2C_4L_1g_m\right) + s\left(C_3R_1g_m + C_3 + 2C_4R_1g_m + 2C_4\right)}$$

**10.847** **INVALID-ORDER-847** $Z(s) = \left( \frac{C_1L_1R_1s^2+L_1s+R_1}{C_1L_1s^2+1}, \ \infty, \ \frac{1}{C_3s}, \ \frac{L_4s}{C_4L_4s^2+1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1L_1L_4R_1g_ms^3 + L_1L_4g_ms^2 + L_4R_1g_ms}{2L_1g_ms + 2R_1g_m + s^4\left(C_1C_3L_1L_4R_1g_m + C_1C_3L_1L_4 + 2C_1C_4L_1L_4R_1g_m + 2C_1C_4L_1L_4\right) + s^3\left(C_3L_1L_4g_m + 2C_4L_1L_4g_m\right) + s^2\left(2C_1L_1R_1g_m + 2C_1L_1 + C_3L_4R_1g_m + C_3L_4 + 2C_4L_4R_1g_m + 2C_4L_4\right) + 2}$$

**10.848** **INVALID-ORDER-848** $Z(s) = \left( \frac{C_1L_1R_1s^2+L_1s+R_1}{C_1L_1s^2+1}, \ \infty, \ \frac{1}{C_3s}, \ L_4s + R_4 + \frac{1}{C_4s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1C_4L_1L_4R_1g_ms^4 + R_1g_m + s^3\left(C_1C_4L_1R_1R_4g_m + C_4L_1L_4g_m\right) + s^2\left(C_1L_1R_1g_m + C_4L_1R_4g_m + C_4L_4R_1g_m\right) + s\left(C_4R_1R_4g_m + L_1g_m\right)}{s^5\left(C_1C_3C_4L_1L_4R_1g_m + C_1C_3C_4L_1L_4\right) + s^4\left(C_1C_3C_4L_1R_1R_4g_m + C_1C_3C_4L_1R_4 + C_3C_4L_1L_4g_m\right) + s^3\left(C_1C_3L_1R_1g_m + C_1C_3L_1 + 2C_1C_4L_1R_1g_m + 2C_1C_4L_1 + C_3C_4L_1R_4g_m + C_3C_4L_4R_1g_m + C_3C_4L_4\right) + s^2\left(C_3C_4R_1R_4g_m + C_3C_4R_4 + C_3L_1g_m + 2C_4L_1g_m\right) +}$$

**10.849 INVALID-ORDER-849** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 L_1 L_4 R_1 R_4 g_m s^3 + L_1 L_4 R_4 g_m s^2 + L_4 R_1 R_4 g_m s}{2R_1 R_4 g_m + 2R_4 + s^4 \left(C_1 C_3 L_1 L_4 R_1 R_4 g_m + C_1 C_3 L_1 L_4 R_4 + 2C_1 C_4 L_1 L_4 R_1 R_4 g_m + 2C_1 C_4 L_1 L_4 R_4\right) + s^3 \left(2C_1 L_1 L_4 R_1 g_m + 2C_1 L_1 L_4 + C_3 L_1 L_4 R_4 g_m + 2C_4 L_1 L_4 R_1 g_m\right) + s^2 \left(2C_1 L_1 R_1 R_4 g_m + 2C_1 L_1 R_4 + C_3 L_4 R_1 R_4 g_m + C_3 L_4 R_4 + 2C_4 L_4 R_1 R_4 g_m + 2C_4 L_4 R_4 + \dots\right)}$$

**10.850 INVALID-ORDER-850** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_4 L_1 L_4 R_1 R_4 g_m s^4 + R_1 R_4 g_m + s^3 \left(C_1 L_1 L_4 R_1 g_m + C_4 L_1 L_4 R_4 g_m\right) + s^2 \left(C_1 L_1 R_1 R_4 g_m + C_4 L_4 R_1 R_4 g_m + L_1 L_4 g_m\right) + s \left(L_1 R_4 g_m + L_4 R_1 g_m\right)}{2R_1 g_m + s^5 \left(C_1 C_3 C_4 L_1 L_4 R_1 R_4 g_m + C_1 C_3 C_4 L_1 L_4 R_4\right) + s^4 \left(C_1 C_3 L_1 L_4 R_1 g_m + C_1 C_3 L_1 L_4 + 2C_1 C_4 L_1 L_4 R_1 g_m + 2C_1 C_4 L_1 L_4 + C_3 C_4 L_1 L_4 R_4 g_m\right) + s^3 \left(C_1 C_3 L_1 R_1 R_4 g_m + C_1 C_3 L_1 R_4 + C_3 C_4 L_4 R_1 R_4 g_m + C_3 C_4 L_4 R_4 + C_3 L_1 L_4 g_m + 2C_4 L_1 L_4 g_m\right) + s^2 \left(2C_1 L_1 R_1 \dots\right)}$$

**10.851 INVALID-ORDER-851** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{1}{C_3 s}, \ \frac{R_4 \left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_4 L_1 L_4 R_1 R_4 g_m s^4 + C_4 L_1 L_4 R_4 g_m s^3 + L_1 R_4 g_m s + R_1 R_4 g_m + s^2 \left(C_1 L_1 R_1 R_4 g_m + C_4 L_4 R_1 R_4 g_m\right)}{2R_1 g_m + s^5 \left(C_1 C_3 C_4 L_1 L_4 R_1 R_4 g_m + C_1 C_3 C_4 L_1 L_4 R_4\right) + s^4 \left(2C_1 C_4 L_1 L_4 R_1 g_m + 2C_1 C_4 L_1 L_4 + C_3 C_4 L_1 L_4 R_4 g_m\right) + s^3 \left(C_1 C_3 L_1 R_1 R_4 g_m + C_1 C_3 L_1 R_4 + 2C_1 C_4 L_1 R_1 R_4 g_m + 2C_1 C_4 L_1 R_4 + C_3 C_4 L_4 R_1 R_4 g_m + C_3 C_4 L_4 R_4 + 2C_4 L_1 L_4 g_m\right) + s^2 \left(2C_1 L_1 R_1 g_m + 2C_1 L_1 \dots\right)}$$

**10.852 INVALID-ORDER-852** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 L_1 R_1 R_3 R_4 g_m s^2 + L_1 R_3 R_4 g_m s + R_1 R_3 R_4 g_m}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4 + s^3 \left(C_1 C_3 L_1 R_1 R_3 R_4 g_m + C_1 C_3 L_1 R_3 R_4\right) + s^2 \left(2C_1 L_1 R_1 R_3 g_m + C_1 L_1 R_1 R_4 g_m + 2C_1 L_1 R_3 + C_1 L_1 R_4 + C_3 L_1 R_3 R_4 g_m\right) + s \left(C_3 R_1 R_3 R_4 g_m + C_3 R_3 R_4 + 2L_1 R_3 g_m + L_1 R_4 g_m\right)}$$

**10.853 INVALID-ORDER-853** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 L_1 R_1 R_3 g_m s^2 + L_1 R_3 g_m s + R_1 R_3 g_m}{R_1 g_m + s^3 \left(C_1 C_3 L_1 R_1 R_3 g_m + C_1 C_3 L_1 R_3 + 2C_1 C_4 L_1 R_1 R_3 g_m + 2C_1 C_4 L_1 R_3\right) + s^2 \left(C_1 L_1 R_1 g_m + C_1 L_1 + C_3 L_1 R_3 g_m + 2C_4 L_1 R_3 g_m\right) + s \left(C_3 R_1 R_3 g_m + C_3 R_3 + 2C_4 R_1 R_3 g_m + 2C_4 R_3 + L_1 g_m\right) + 1}$$

**10.854 INVALID-ORDER-854** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 L_1 R_1 R_3 R_4 g_m s^2 + L_1 R_3 R_4 g_m s + R_1 R_3 R_4 g_m}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4 + s^3 \left(C_1 C_3 L_1 R_1 R_3 R_4 g_m + C_1 C_3 L_1 R_3 R_4 + 2C_1 C_4 L_1 R_1 R_3 R_4 g_m + 2C_1 C_4 L_1 R_3 R_4\right) + s^2 \left(2C_1 L_1 R_1 R_3 g_m + C_1 L_1 R_1 R_4 g_m + 2C_1 L_1 R_3 + C_1 L_1 R_4 + C_3 L_1 R_3 R_4 g_m + 2C_4 L_1 R_3 R_4 g_m\right) + s \left(C_3 R_1 R_3 R_4 g_m + C_3 R_3 R_4 + 2C_4 R_1 R_3 R_4 g_m + \dots\right)}$$

**10.855 INVALID-ORDER-855** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_4 L_1 R_1 R_3 R_4 g_m s^3 + R_1 R_3 g_m + s^2 \left(C_1 L_1 R_1 R_3 g_m + C_4 L_1 R_3 R_4 g_m\right) + s \left(C_4 R_1 R_3 R_4 g_m + L_1 R_3 g_m\right)}{R_1 g_m + s^4 \left(C_1 C_3 C_4 L_1 R_1 R_3 R_4 g_m + C_1 C_3 C_4 L_1 R_3 R_4\right) + s^3 \left(C_1 C_3 L_1 R_1 R_3 g_m + C_1 C_3 L_1 R_3 + 2C_1 C_4 L_1 R_1 R_3 g_m + C_1 C_4 L_1 R_1 R_4 g_m + 2C_1 C_4 L_1 R_3 + C_1 C_4 L_1 R_4 + C_3 C_4 L_1 R_3 R_4 g_m\right) + s^2 \left(C_1 L_1 R_1 g_m + C_1 L_1 + C_3 C_4 R_1 R_3 R_4 g_m + C_3 C_4 R_3 R_4 + C_3 L_1 R_3 g_m + 2C_4 L_1 \dots\right)}$$

**10.856 INVALID-ORDER-856** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_4 L_1 L_4 R_1 R_3 g_m s^4 + C_4 L_1 L_4 R_3 g_m s^3 + L_1 R_3 g_m s + R_1 R_3 g_m + s^2 \left(C_1 L_1 R_1 R_3 g_m + C_4 L_4 R_1 R_3 g_m\right)}{R_1 g_m + s^5 \left(C_1 C_3 C_4 L_1 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_1 L_4 R_3\right) + s^4 \left(C_1 C_4 L_1 L_4 R_1 g_m + C_1 C_4 L_1 L_4 + C_3 C_4 L_1 L_4 R_3 g_m\right) + s^3 \left(C_1 C_3 L_1 R_1 R_3 g_m + C_1 C_3 L_1 R_3 + 2C_1 C_4 L_1 R_1 R_3 g_m + 2C_1 C_4 L_1 R_3 + C_3 C_4 L_4 R_1 R_3 g_m + C_3 C_4 L_4 R_3 + C_4 L_1 L_4 g_m\right) + s^2 \left(C_1 L_1 R_1 g_m + C_1 L_1 + C_3 \dots\right)}$$

**10.857 INVALID-ORDER-857** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{R_3}{C_3 R_3 s + 1}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 L_1 L_4 R_1 R_3 g_m s^3 + L_1 L_4 R_3 g_m s^2 + L_4 R_1 R_3 g_m s}{2R_1 R_3 g_m + 2R_3 + s^4 \left(C_1 C_3 L_1 L_4 R_1 R_3 g_m + C_1 C_3 L_1 L_4 R_3 + 2C_1 C_4 L_1 L_4 R_1 R_3 g_m + 2C_1 C_4 L_1 L_4 R_3\right) + s^3 \left(C_1 L_1 L_4 R_1 g_m + C_1 L_1 L_4 + C_3 L_1 L_4 R_3 g_m + 2C_4 L_1 L_4 R_3 g_m\right) + s^2 \left(2C_1 L_1 R_1 R_3 g_m + 2C_1 L_1 R_3 + C_3 L_4 R_1 R_3 g_m + C_3 L_4 R_3 + 2C_4 L_4 R_1 R_3 g_m + 2C_4 L_4 R_3 + L \dots\right)}$$

**10.858 INVALID-ORDER-858** $Z(s) = \left( \frac{C_1L_1R_1s^2+L_1s+R_1}{C_1L_1s^2+1}, \ \infty, \ \frac{R_3}{C_3R_3s+1}, \ L_4s+R_4+\frac{1}{C_4s}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1C_4L_1L_4R_1R_3g_m s^4 + R_1R_3g_m + s^3\left(C_1C_4L_1R_1R_3R_4g_m + C_4L_1L_4R_3g_m\right.}{R_1g_m + s^5\left(C_1C_3C_4L_1L_4R_1R_3g_m + C_1C_3C_4L_1L_4R_3\right) + s^4\left(C_1C_3C_4L_1R_1R_3R_4g_m + C_1C_3C_4L_1R_3R_4 + C_1C_4L_1L_4R_1g_m + C_1C_4L_1L_4 + C_3C_4L_1L_4R_3g_m\right) + s^3\left(C_1C_3L_1R_1R_3g_m + C_1C_3L_1R_3 + 2C_1C_4L_1R_1R_3g_m + C_1C_4L_1R_1R_4 + }$

**10.859 INVALID-ORDER-859** $Z(s) = \left( \frac{C_1L_1R_1s^2+L_1s+R_1}{C_1L_1s^2+1}, \ \infty, \ \frac{R_3}{C_3R_3s+1}, \ \frac{L_4R_4s}{C_4L_4R_4s^2+L_4s+R_4}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1L_1L_4R_1R_3R_4g_m s^3 + L_1L_4R_3R_4g_m s^2 + L_4R_1R_3R_4g_m s}{2R_1R_3R_4g_m + 2R_3R_4 + s^4\left(C_1C_3L_1L_4R_1R_3R_4g_m + C_1C_3L_1L_4R_3R_4 + 2C_1C_4L_1L_4R_1R_3R_4g_m + 2C_1C_4L_1L_4R_3R_4\right) + s^3\left(2C_1L_1L_4R_1R_3g_m + C_1L_1L_4R_1R_4g_m + 2C_1L_1L_4R_3 + C_1L_1L_4R_4 + C_3L_1L_4R_3R_4g_m + 2C_4L_1L_4R_3R_4g_m\right) + s^2\left(2C_1L_1R_1R_3R_4g_m + 2C_1L}$

**10.860 INVALID-ORDER-860** $Z(s) = \left( \frac{C_1L_1R_1s^2+L_1s+R_1}{C_1L_1s^2+1}, \ \infty, \ \frac{R_3}{C_3R_3s+1}, \ \frac{C_4L_4R_4s^2+L_4s+R_4}{C_4L_4s^2+1}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1C_4L_1L_4R_1R_3R_4g_m s^4 + }{2R_1R_3g_m + R_1R_4g_m + 2R_3 + R_4 + s^5\left(C_1C_3C_4L_1L_4R_1R_3R_4g_m + C_1C_3C_4L_1L_4R_3R_4\right) + s^4\left(C_1C_3L_1L_4R_1R_3g_m + C_1C_3L_1L_4R_3 + 2C_1C_4L_1L_4R_1R_3g_m + C_1C_4L_1L_4R_1R_4g_m + 2C_1C_4L_1L_4R_3 + C_1C_4L_1L_4R_4 + C_3C_4L_1L_4R_3R_4g_m\right) + s^3\left(C_1C_3L_1R_1R_3g_m + C\right.}$

**10.861 INVALID-ORDER-861** $Z(s) = \left( \frac{C_1L_1R_1s^2+L_1s+R_1}{C_1L_1s^2+1}, \ \infty, \ \frac{R_3}{C_3R_3s+1}, \ \frac{R_4\left(C_4L_4s^2+1\right)}{C_4L_4s^2+C_4R_4s+1}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1C_4L_1L_4R_1R_3R_4g_m s^4 + }{2R_1R_3g_m + R_1R_4g_m + 2R_3 + R_4 + s^5\left(C_1C_3C_4L_1L_4R_1R_3R_4g_m + C_1C_3C_4L_1L_4R_3R_4\right) + s^4\left(2C_1C_4L_1L_4R_1R_3g_m + C_1C_4L_1L_4R_1R_4g_m + 2C_1C_4L_1L_4R_3 + C_1C_4L_1L_4R_4 + C_3C_4L_1L_4R_3R_4g_m\right) + s^3\left(C_1C_3L_1R_1R_3g_m + C_1C_3L_1R_3R_4 + 2C_1C_4L_1R_1R_3R_4g_m + 2\right.}$

**10.862 INVALID-ORDER-862** $Z(s) = \left( \frac{C_1L_1R_1s^2+L_1s+R_1}{C_1L_1s^2+1}, \ \infty, \ R_3+\frac{1}{C_3s}, \ R_4, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1C_3L_1R_1R_3R_4g_m s^3 + R_1R_4g_m + s^2\left(C_1L_1R_1R_4g_m + C_3L_1R_3R_4g_m\right) + s\left(C_3R_1R_3R_4g_m + L_1R_4g_m\right)}{2R_1g_m + s^3\left(2C_1C_3L_1R_1R_3g_m + C_1C_3L_1R_1R_4g_m + 2C_1C_3L_1R_3 + C_1C_3L_1R_4\right) + s^2\left(2C_1L_1R_1g_m + 2C_1L_1 + 2C_3L_1R_3g_m + C_3L_1R_4g_m\right) + s\left(2C_3R_1R_3g_m + C_3R_1R_4g_m + 2C_3R_3 + C_3R_4 + 2L_1g_m\right) + 2}$

**10.863 INVALID-ORDER-863** $Z(s) = \left( \frac{C_1L_1R_1s^2+L_1s+R_1}{C_1L_1s^2+1}, \ \infty, \ R_3+\frac{1}{C_3s}, \ \frac{1}{C_4s}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1C_3L_1R_1R_3g_m s^3 + R_1g_m + s^2\left(C_1L_1R_1g_m + C_3L_1R_3g_m\right) + s\left(C_3R_1R_3g_m + L_1g_m\right)}{s^4\left(2C_1C_3C_4L_1R_1R_3g_m + 2C_1C_3C_4L_1R_3\right) + s^3\left(C_1C_3L_1R_1g_m + C_1C_3L_1 + 2C_1C_4L_1R_1g_m + 2C_1C_4L_1 + 2C_3C_4L_1R_3g_m\right) + s^2\left(2C_3C_4R_1R_3g_m + 2C_3C_4R_3 + C_3L_1g_m + 2C_4L_1g_m\right) + s\left(C_3R_1g_m + C_3 + 2C_4R_1g_m + 2C_4\right)}$

**10.864 INVALID-ORDER-864** $Z(s) = \left( \frac{C_1L_1R_1s^2+L_1s+R_1}{C_1L_1s^2+1}, \ \infty, \ R_3+\frac{1}{C_3s}, \ \frac{R_4}{C_4R_4s+1}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1C_3L_1R_1R_3R_4g_m s^3 + R_1R_4g_m + s^2\left(C_1L_1R_1R_4g_m + C_3L_1R_3R_4g_m\right) + s\left(C_3R_1R_3R_4g_m + L_1R_4g_m\right)}{2R_1g_m + s^4\left(2C_1C_3C_4L_1R_1R_3R_4g_m + 2C_1C_3C_4L_1R_3R_4\right) + s^3\left(2C_1C_3L_1R_1R_3g_m + C_1C_3L_1R_1R_4g_m + 2C_1C_3L_1R_3 + C_1C_3L_1R_4 + 2C_1C_4L_1R_1R_4g_m + 2C_1C_4L_1R_4 + 2C_3C_4L_1R_3R_4g_m\right) + s^2\left(2C_1L_1R_1g_m + 2C_1L_1 + 2C_3C_4R_1R_3R_4g_m + 2C_3C_4R_3R_4 + 2C_3L_1R}$

**10.865 INVALID-ORDER-865** $Z(s) = \left( \frac{C_1L_1R_1s^2+L_1s+R_1}{C_1L_1s^2+1}, \ \infty, \ R_3+\frac{1}{C_3s}, \ R_4+\frac{1}{C_4s}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1C_3C_4L_1R_1R_3R_4g_m s^4 + R_1g_m + s^3\left(C_1C_3L_1R_1R_3g_m + C_1C_4L_1R_1R_4g_m + C_3C_4L_1R_3R_4g_m\right) + s^2\left(C_1L_1R_1g_m + C_3C_4R_1R_3R_4g_m + C_3L_1R_3g_m + C_4L_1R_4g_m\right) + s\left(C_3R_1R_3g_m + C_4R_1R_4g_m + L_1g_m\right)}{s^4\left(2C_1C_3C_4L_1R_1R_3g_m + C_1C_3C_4L_1R_1R_4g_m + 2C_1C_3C_4L_1R_3 + C_1C_3C_4L_1R_4\right) + s^3\left(C_1C_3L_1R_1g_m + C_1C_3L_1 + 2C_1C_4L_1R_1g_m + 2C_1C_4L_1 + 2C_3C_4L_1R_3g_m + C_3C_4L_1R_4g_m\right) + s^2\left(2C_3C_4R_1R_3g_m + C_3C_4R_1R_4g_m + 2C_3C_4R_3 + C_3C_4R_4 + C_3L_1g_m + 2C_4L_1g_m\right)}$

**10.866 INVALID-ORDER-866** $Z(s) = \left( \frac{C_1L_1R_1s^2+L_1s+R_1}{C_1L_1s^2+1}, \ \infty, \ R_3+\frac{1}{C_3s}, \ L_4s+\frac{1}{C_4s}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1C_3C_4L_1L_4R_1R_3g_m s^5 + R_1g_m + s^4\left(C_1C_4L_1L_4R_1g_m + C_3C_4L_1L_4R_3g_m\right) + s^3\left(C_1C_3L_1R_1R_3g_m + C_3C_4L_1R_1R_3g_m + C_4L_1L_4g_m\right) + s^2\left(C_1L_1R_1g_m + C_3L_1R_3g_m + C_4L_4R_1g_m\right) + s\left(C_3R_1R_3g_m + L_1g_m\right)}{s^5\left(C_1C_3C_4L_1L_4R_1g_m + C_1C_3C_4L_1L_4\right) + s^4\left(2C_1C_3C_4L_1R_1R_3g_m + 2C_1C_3C_4L_1R_3 + C_3C_4L_1L_4g_m\right) + s^3\left(C_1C_3L_1R_1g_m + C_1C_3L_1 + 2C_1C_4L_1R_1g_m + 2C_1C_4L_1 + 2C_3C_4L_1R_3g_m + C_3C_4L_4R_1g_m + C_3C_4L_4\right) + s^2\left(2C_3C_4R_1R_3g_m + 2C_3C_4R_3 + C_3L_1g_m + 2C_4L}$

**10.867   INVALID-ORDER-867** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 L_1 L_4 R_1 R_3 g_m s^4 + L_4 R_1 g_m s + s^3 (C_1 L_1 L_4 R_1 g_m + C_3 L_1 L_4 R_3 g_m) + s^2 (C_3 L_4 R_1 R_3 g_m + L_1 L_4 g_m)}{2 R_1 g_m + s^5 (2 C_1 C_3 C_4 L_1 L_4 R_1 R_3 g_m + 2 C_1 C_3 C_4 L_1 L_4 R_3) + s^4 (C_1 C_3 L_1 L_4 R_1 g_m + C_1 C_3 L_1 L_4 + 2 C_1 C_4 L_1 L_4 R_1 g_m + 2 C_1 C_4 L_1 L_4 + 2 C_3 C_4 L_1 L_4 R_3 g_m) + s^3 (2 C_1 C_3 L_1 R_1 R_3 g_m + 2 C_1 C_3 L_1 R_3 + 2 C_3 C_4 L_4 R_1 R_3 g_m + 2 C_3 C_4 L_4 R_3 + C_3 L_1 L_4 g_m + 2 C_4 L_1 L_4 g_m) + s^2 (2 \ldots}$

**10.868   INVALID-ORDER-868** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 C_4 L_1 L_4 R_1 R_3 g_m s^5 + R_1 g_m + s^4 (C_1 C_3 C_4 L_1 R_1 R_3 R_4 g_m + C_1 C_4 L_1 L_4 R_1 g_m + C_3 C_4 L_1 L_4 R_3 g_m) + s^3 (C_1 C_3 L_1 R_1 R_3 g_m + C_1 C_4 L_1 R_1 R_4 g_m + C_3 C_4 L_1 R_3 R_4 g_m + C_3 C_4 L_4 R_1 R_3 g_m + C_4 L_1 L_4 g_m) + s^2 (C_1 L_1 R_1 g_m + C_3 C_4 R_1 \ldots}{s^5 (C_1 C_3 C_4 L_1 L_4 R_1 g_m + C_1 C_3 C_4 L_1 L_4) + s^4 (2 C_1 C_3 C_4 L_1 R_1 R_3 g_m + C_1 C_3 C_4 L_1 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_1 R_3 + C_1 C_3 C_4 L_1 R_4 + C_3 C_4 L_1 L_4 g_m) + s^3 (C_1 C_3 L_1 R_1 g_m + C_1 C_3 L_1 + 2 C_1 C_4 L_1 R_1 g_m + 2 C_1 C_4 L_1 + 2 C_3 C_4 L_1 R_3 g_m + C_3 C_4 L_1 R_4 g_m + C_3 C_4 L_4 R_1 g_m + C_3 C_4 L \ldots}$

**10.869   INVALID-ORDER-869** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 L_1 L_4 R_1 R_3 R_4 \ldots}{2 R_1 R_4 g_m + 2 R_4 + s^5 (2 C_1 C_3 C_4 L_1 L_4 R_1 R_3 R_4 g_m + 2 C_1 C_3 C_4 L_1 L_4 R_3 R_4) + s^4 (2 C_1 C_3 L_1 L_4 R_1 R_3 g_m + C_1 C_3 L_1 L_4 R_1 R_4 g_m + 2 C_1 C_3 L_1 L_4 R_3 + C_1 C_3 L_1 L_4 R_4 + 2 C_1 C_4 L_1 L_4 R_1 R_4 g_m + 2 C_1 C_4 L_1 L_4 R_4 + 2 C_3 C_4 L_1 L_4 R_3 R_4 g_m) + s^3 (2 C_1 C_3 L_1 R_1 R_3 R_4 g_m + 2 C_1 C_3 L_1 R_3 \ldots}$

**10.870   INVALID-ORDER-870** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 C_4 L_1 L_4 R_1 R_3 R_4 g_m s^5 + R_1 R_4 g_m + s^4 (C_1 C_3 L_1 L_4 R_1 R_3 g_m + C_1 C_4 L_1 L_4 R_1 R_4 g_m + C_3 C_4 L_1 L_4 R_3 R_4 g_m) + s^3 (C_1 C_3 L_1 R_1 R_3 R_4 g_m + C_1 L_1 L_4 R_1 g_m + \ldots}{2 R_1 g_m + s^5 (2 C_1 C_3 C_4 L_1 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_1 L_4 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_1 L_4 R_3 + C_1 C_3 C_4 L_1 L_4 R_4) + s^4 (C_1 C_3 L_1 L_4 R_1 g_m + C_1 C_3 L_1 L_4 + 2 C_1 C_4 L_1 L_4 R_1 g_m + 2 C_1 C_4 L_1 L_4 + 2 C_3 C_4 L_1 L_4 R_3 g_m + C_3 C_4 L_1 L_4 R_4 g_m) + s^3 (2 C_1 C_3 L_1 R_1 R_3 g_m + C_1 C_3 L_1 R_1 R_4 g_m + 2 C \ldots}$

**10.871   INVALID-ORDER-871** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{R_4 \left( C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 C_4 L_1 L_4 R_1 R_3 R_4 g_m s^5 + R_1 R_4 g_m + s^4 (C_1 C_4 \ldots}{2 R_1 g_m + s^5 (2 C_1 C_3 C_4 L_1 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_1 L_4 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_1 L_4 R_3 + C_1 C_3 C_4 L_1 L_4 R_4) + s^4 (2 C_1 C_3 C_4 L_1 R_1 R_3 R_4 g_m + 2 C_1 C_3 C_4 L_1 R_3 R_4 + 2 C_1 C_4 L_1 L_4 R_1 g_m + 2 C_1 C_4 L_1 L_4 + 2 C_3 C_4 L_1 L_4 R_3 g_m + C_3 C_4 L_1 L_4 R_4 g_m) + s^3 (2 C_1 C_3 L_1 R_1 R_3 g_m + C_1 C_3 L_1 \ldots}$

**10.872   INVALID-ORDER-872** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ R_4, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 L_1 L_3 R_1 R_4 g_m s^4 + C_3 L_1 L_3 R_4 g_m s^3 + L_1 R_4 g_m s + R_1 R_4 g_m + s^2 (C_1 L_1 R_1 R_4 g_m + C_3 L_3 R_1 R_4 g_m)}{2 R_1 g_m + s^4 (2 C_1 C_3 L_1 L_3 R_1 g_m + 2 C_1 C_3 L_1 L_3) + s^3 (C_1 C_3 L_1 R_1 R_4 g_m + C_1 C_3 L_1 R_4 + 2 C_3 L_1 L_3 g_m) + s^2 (2 C_1 L_1 R_1 g_m + 2 C_1 L_1 + C_3 L_1 R_4 g_m + 2 C_3 L_3 R_1 g_m + 2 C_3 L_3) + s (C_3 R_1 R_4 g_m + C_3 R_4 + 2 L_1 g_m) + 2}$

**10.873   INVALID-ORDER-873** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 L_1 L_3 R_1 g_m s^4 + C_3 L_1 L_3 g_m s^3 + L_1 g_m s + R_1 g_m + s^2 (C_1 L_1 R_1 g_m + C_3 L_3 R_1 g_m)}{2 C_3 C_4 L_1 L_3 g_m s^4 + s^5 (2 C_1 C_3 C_4 L_1 L_3 R_1 g_m + 2 C_1 C_3 C_4 L_1 L_3) + s^3 (C_1 C_3 L_1 R_1 g_m + C_1 C_3 L_1 + 2 C_1 C_4 L_1 R_1 g_m + 2 C_1 C_4 L_1 + 2 C_3 C_4 L_3 R_1 g_m + 2 C_3 C_4 L_3) + s^2 (C_3 L_1 g_m + 2 C_4 L_1 g_m) + s (C_3 R_1 g_m + C_3 + 2 C_4 R_1 g_m + 2 C_4)}$

**10.874   INVALID-ORDER-874** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 L_1 L_3 R_1 R_4 g_m s^4 + C_3 L_1 L_3 R_4 g_m s^3 + L_1 R_4 g_m s + R_1 R_4 g_m + s^2 (C_1 L_1 R_1 R_4 g_m + C_3 L_3 R_1 R_4 g_m)}{2 R_1 g_m + s^5 (2 C_1 C_3 C_4 L_1 L_3 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_1 L_3 R_4) + s^4 (2 C_1 C_3 L_1 L_3 R_1 g_m + 2 C_1 C_3 L_1 L_3 + 2 C_3 C_4 L_1 L_3 R_4 g_m) + s^3 (C_1 C_3 L_1 R_1 R_4 g_m + C_1 C_3 L_1 R_4 + 2 C_1 C_4 L_1 R_1 R_4 g_m + 2 C_1 C_4 L_1 R_4 + 2 C_3 C_4 L_3 R_1 R_4 g_m + 2 C_3 C_4 L_3 R_4 + 2 C_3 L_1 L_3 g_m) + s^2 (2 C_1 L_1 R_1 g_m + \ldots}$

**10.875   INVALID-ORDER-875** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 R_1 R_4 g_m s^5 + R_1 g_m + s^4 (C_1 C_3 L_1 L_3 R_1 g_m + C_3 C_4 L_1 L_3 R_4 g_m) + s^3 (C_1 C_4 L_1 R_1 R_4 g_m + C_3 C_4 L_3 R_1 R_4 g_m + C_3 L_1 L_3 g_m) + s^2 (C_1 L_1 R_1 g_m + C_3 L_3 R_1 g_m + C_4 L_1 R_4 g_m) + s (C_4 R_1 R_4 g_m + L_1 g_m)}{s^5 (2 C_1 C_3 C_4 L_1 L_3 R_1 g_m + 2 C_1 C_3 C_4 L_1 L_3) + s^4 (C_1 C_3 C_4 L_1 R_1 R_4 g_m + C_1 C_3 C_4 L_1 R_4 + 2 C_3 C_4 L_1 L_3 g_m) + s^3 (C_1 C_3 L_1 R_1 g_m + C_1 C_3 L_1 + 2 C_1 C_4 L_1 R_1 g_m + 2 C_1 C_4 L_1 + C_3 C_4 L_1 R_4 g_m + 2 C_3 C_4 L_3 R_1 g_m + 2 C_3 C_4 L_3) + s^2 (C_3 C_4 R_1 R_4 g_m + C_3 C_4 R_4 + C_3 L_1 g_m + 2 C_4 L \ldots}$

**10.876 INVALID-ORDER-876** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 R_1 g_m s^6 + C_3 C_4 L_1 L_3 L_4 g_m s^5 + L_1 g_m s + R_1 g_m + s^4 (C_1 C_3 L_1 L_3 R_1 g_m + C_1 C_4 L_1 L_4 R_1 g_m + C_3 C_4 L_3 L_4 R_1 g_m) + s^3 (C_3 L_1 L_3 g_m + C_4 L_1 L_4 g_m) + s^2 (C_1 L_1 R_1 g_m + C_3 L_3 R_1 g_m + C_4 L_4 R_1 g_m)}{s^5 (2 C_1 C_3 C_4 L_1 L_3 R_1 g_m + 2 C_1 C_3 C_4 L_1 L_3 + C_1 C_3 C_4 L_1 L_4 R_1 g_m + C_1 C_3 C_4 L_1 L_4) + s^4 (2 C_3 C_4 L_1 L_3 g_m + C_3 C_4 L_1 L_4 g_m) + s^3 (C_1 C_3 L_1 R_1 g_m + C_1 C_3 L_1 + 2 C_1 C_4 L_1 R_1 g_m + 2 C_1 C_4 L_1 + 2 C_3 C_4 L_3 R_1 g_m + 2 C_3 C_4 L_3 + C_3 C_4 L_4 R_1 g_m + C_3 C_4 L_4) + s^2 (C_3 L_1 g_m + 2 C_4 L_1 \ldots}$

**10.877 INVALID-ORDER-877** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 L_1 L_3 L_4 R_1 g_m s^5 + C_3 L_1 L_3 L_4 g_m s^4 + L_1 L_4 g_m s^2 + L_4 R_1 g_m s + s^3 (C_1 L_1 L_4 R_1 g_m + C_3 L_3 L_4 R_1 g_m)}{2 C_3 C_4 L_1 L_3 L_4 g_m s^5 + 2 L_1 g_m s + 2 R_1 g_m + s^6 (2 C_1 C_3 C_4 L_1 L_3 L_4 R_1 g_m + 2 C_1 C_3 C_4 L_1 L_3 L_4) + s^4 (2 C_1 C_3 L_1 L_3 R_1 g_m + 2 C_1 C_3 L_1 L_3 + C_1 C_3 L_1 L_4 R_1 g_m + C_1 C_3 L_1 L_4 + 2 C_1 C_4 L_1 L_4 R_1 g_m + 2 C_1 C_4 L_1 L_4 + 2 C_3 C_4 L_3 L_4 R_1 g_m + 2 C_3 C_4 L_3 L_4) + s^3 (2 C_3 L_1 L_3 g_m + C_3 L_1 L_4 \ldots}$

**10.878 INVALID-ORDER-878** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 R_1 g_m s^6 + R_1 g_m + s^5 (C_1 C_3 C_4 L_1 L_3 R_1 R_4 g_m + C_3 C_4 L_1 L_3 L_4 g_m) + s^4 (C_1 C_3 L_1 L_3 R_1 g_m + C_1 C_4 L_1 L_4 R_1 g_m + C_3 C_4 L_1 L_3 R_4 g_m + C_3 C_4 L_3 L_4 R_1 g_m) + s^3 (C_1 C_4 L_1 R_1 R_4 g_m + C_3 C_4 L_3 R_1 R_4 g_m + C_3 L_1 L_3 g_m + C_4 L_1 L_4 \ldots}{s^5 (2 C_1 C_3 C_4 L_1 L_3 R_1 g_m + 2 C_1 C_3 C_4 L_1 L_3 + C_1 C_3 C_4 L_1 L_4 R_1 g_m + C_1 C_3 C_4 L_1 L_4) + s^4 (C_1 C_3 C_4 L_1 R_1 R_4 g_m + C_1 C_3 C_4 L_1 R_4 + 2 C_3 C_4 L_1 L_3 g_m + C_3 C_4 L_1 L_4 g_m) + s^3 (C_1 C_3 L_1 R_1 g_m + C_1 C_3 L_1 + 2 C_1 C_4 L_1 R_1 g_m + 2 C_1 C_4 L_1 + C_3 C_4 L_1 R_4 g_m + 2 C_3 C_4 L_3 R_1 g_m + 2 C_3 C_4 \ldots}$

**10.879 INVALID-ORDER-879** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 L_1 L_3 L_4 R_1 R \ldots}{2 R_1 R_4 g_m + 2 R_4 + s^6 (2 C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_1 L_3 L_4 R_4) + s^5 (2 C_1 C_3 L_1 L_3 L_4 R_1 g_m + 2 C_1 C_3 L_1 L_3 L_4 + 2 C_3 C_4 L_1 L_3 L_4 R_4 g_m) + s^4 (2 C_1 C_3 L_1 L_3 R_1 R_4 g_m + 2 C_1 C_3 L_1 L_3 R_4 + C_1 C_3 L_1 L_4 R_1 R_4 g_m + C_1 C_3 L_1 L_4 R_4 + 2 C_1 C_4 L_1 L_4 R_1 R_4 g_m + 2 C_1 C_4 L_1 L \ldots}$

**10.880 INVALID-ORDER-880** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_4 g_m s^6 + R_1 R_4 g_m + s^5 (C_1 C_3 L_1 L_3 L_4 R_1 g_m + C_3 C_4 L_1 L_3 L_4 R_4 g_m) + s^4 (C_1 C_3 L_1 L_3 R_1 R_4 g_m + C_1 C_4 L_1 L_4 R_1 R_4 g_m + C_3 C_4 L_3 L_4 R_1 R \ldots}{2 R_1 g_m + s^6 (2 C_1 C_3 C_4 L_1 L_3 L_4 R_1 g_m + 2 C_1 C_3 C_4 L_1 L_3 L_4) + s^5 (C_1 C_3 C_4 L_1 L_4 R_1 R_4 g_m + C_1 C_3 C_4 L_1 L_4 R_4 + 2 C_3 C_4 L_1 L_3 L_4 g_m) + s^4 (2 C_1 C_3 L_1 L_3 R_1 g_m + 2 C_1 C_3 L_1 L_3 + C_1 C_3 L_1 L_4 R_1 g_m + C_1 C_3 L_1 L_4 + 2 C_1 C_4 L_1 L_4 R_1 g_m + 2 C_1 C_4 L_1 L_4 + C_3 C_4 L_1 L_4 R_4 g_m + 2 C_3 C_4 L \ldots}$

**10.881 INVALID-ORDER-881** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{R_4 (C_4 L_4 s^2 + 1)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_4 g_m s^6 + C_3 C_4 L_1 L_3 L_4 R_4 g_m \ldots}{2 R_1 g_m + s^6 (2 C_1 C_3 C_4 L_1 L_3 L_4 R_1 g_m + 2 C_1 C_3 C_4 L_1 L_3 L_4) + s^5 (2 C_1 C_3 C_4 L_1 L_3 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_1 L_3 R_4 + C_1 C_3 C_4 L_1 L_4 R_1 R_4 g_m + C_1 C_3 C_4 L_1 L_4 R_4 + 2 C_3 C_4 L_1 L_3 L_4 g_m) + s^4 (2 C_1 C_3 L_1 L_3 R_1 g_m + 2 C_1 C_3 L_1 L_3 + 2 C_1 C_4 L_1 L_4 R_1 g_m + 2 C_1 C_4 L_1 L_4 + 2 C_3 C_4 L_1 L_3 R \ldots}$

**10.882 INVALID-ORDER-882** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ R_4, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 L_1 L_3 R_1 R_4 g_m s^3 + L_1 L_3 R_4 g_m s^2 + L_3 R_1 R_4 g_m s}{R_1 R_4 g_m + R_4 + s^4 (C_1 C_3 L_1 L_3 R_1 R_4 g_m + C_1 C_3 L_1 L_3 R_4) + s^3 (2 C_1 L_1 L_3 R_1 g_m + 2 C_1 L_1 L_3 + C_3 L_1 L_3 R_4 g_m) + s^2 (C_1 L_1 R_1 R_4 g_m + C_1 L_1 R_4 + C_3 L_3 R_1 R_4 g_m + C_3 L_3 R_4 + 2 L_1 L_3 g_m) + s (L_1 R_4 g_m + 2 L_3 R_1 g_m + 2 L_3)}$

**10.883 INVALID-ORDER-883** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 L_1 L_3 R_1 g_m s^3 + L_1 L_3 g_m s^2 + L_3 R_1 g_m s}{L_1 g_m s + R_1 g_m + s^4 (C_1 C_3 L_1 L_3 R_1 g_m + C_1 C_3 L_1 L_3 + 2 C_1 C_4 L_1 L_3 R_1 g_m + 2 C_1 C_4 L_1 L_3) + s^3 (C_3 L_1 L_3 g_m + 2 C_4 L_1 L_3 g_m) + s^2 (C_1 L_1 R_1 g_m + C_1 L_1 + C_3 L_3 R_1 g_m + C_3 L_3 + 2 C_4 L_3 R_1 g_m + 2 C_4 L_3) + 1}$

**10.884 INVALID-ORDER-884** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 L_1 L_3 R_1 R_4 g_m s^3 + L_1 L_3 R_4 g_m s^2 + L_3 R_1 R_4 g_m s}{R_1 R_4 g_m + R_4 + s^4 (C_1 C_3 L_1 L_3 R_1 R_4 g_m + C_1 C_3 L_1 L_3 R_4 + 2 C_1 C_4 L_1 L_3 R_1 R_4 g_m + 2 C_1 C_4 L_1 L_3 R_4) + s^3 (2 C_1 L_1 L_3 R_1 g_m + 2 C_1 L_1 L_3 + C_3 L_1 L_3 R_4 g_m + 2 C_4 L_1 L_3 R_4 g_m) + s^2 (C_1 L_1 R_1 R_4 g_m + C_1 L_1 R_4 + C_3 L_3 R_1 R_4 g_m + C_3 L_3 R_4 + 2 C_4 L_3 R_1 R_4 g_m + 2 C_4 L_3 R_4 + 2 L_1 \ldots}$

**10.885   INVALID-ORDER-885** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1 C_4 L_1 L_3 R_1 R_4 g_m s^4 + L_3 R_1 g_m s + s^3 \left( C_1 L_1 L_3 R_1 g_m + C_4 L_1 L_3 R_4 g_m \right) + s^2 \left( C_4 L_3 R_1 R_4 g_m + L_1 L_3 g_m \right)}{R_1 g_m + s^5 \left( C_1 C_3 C_4 L_1 L_3 R_1 R_4 g_m + C_1 C_3 C_4 L_1 L_3 R_4 \right) + s^4 \left( C_1 C_3 L_1 L_3 R_1 g_m + C_1 C_3 L_1 L_3 + 2 C_1 C_4 L_1 L_3 R_1 g_m + 2 C_1 C_4 L_1 L_3 + C_3 C_4 L_1 L_3 R_4 g_m \right) + s^3 \left( C_1 C_4 L_1 R_1 R_4 g_m + C_1 C_4 L_1 R_4 + C_3 C_4 L_3 R_1 R_4 g_m + C_3 C_4 L_3 R_4 + C_3 L_1 L_3 g_m + 2 C_4 L_1 L_3 g_m \right) + s^2 \left( C_1 L_1 R_1 g_m \right.}$

**10.886   INVALID-ORDER-886** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1 C_4 L_1 L_3 L_4 R_1 g_m s^5 + C_4 L_1 L_3 L_4 g_m s^4 + L_1 L_3 g_m s^2 + L_3 R_1 g_m s + s^3 \left( C_1 L_1 L_3 R_1 g_m + C_4 L_3 L_4 R_1 g_m \right)}{C_3 C_4 L_1 L_3 L_4 g_m s^5 + L_1 g_m s + R_1 g_m + s^6 \left( C_1 C_3 C_4 L_1 L_3 L_4 R_1 g_m + C_1 C_3 C_4 L_1 L_3 L_4 \right) + s^4 \left( C_1 C_3 L_1 L_3 R_1 g_m + C_1 C_3 L_1 L_3 + 2 C_1 C_4 L_1 L_3 R_1 g_m + 2 C_1 C_4 L_1 L_3 + C_1 C_4 L_1 L_4 R_1 g_m + C_1 C_4 L_1 L_4 + C_3 C_4 L_3 L_4 R_1 g_m + C_3 C_4 L_3 L_4 \right) + s^3 \left( C_3 L_1 L_3 g_m + 2 C_4 L_1 L_3 g_m + C_4 L_1 \right.}$

**10.887   INVALID-ORDER-887** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1 L_1 L_3 L_4 R_1 g_m s^3 + L_1 L_3 L_4 g_m s^2 + L_3 L_4 R_1 g_m s}{2 L_3 R_1 g_m + 2 L_3 + L_4 R_1 g_m + L_4 + s^4 \left( C_1 C_3 L_1 L_3 L_4 R_1 g_m + C_1 C_3 L_1 L_3 L_4 + 2 C_1 C_4 L_1 L_3 L_4 R_1 g_m + 2 C_1 C_4 L_1 L_3 L_4 \right) + s^3 \left( C_3 L_1 L_3 L_4 g_m + 2 C_4 L_1 L_3 L_4 g_m \right) + s^2 \left( 2 C_1 L_1 L_3 R_1 g_m + 2 C_1 L_1 L_3 + C_1 L_1 L_4 R_1 g_m + C_1 L_1 L_4 + C_3 L_3 L_4 R_1 g_m + C_3 L_3 L_4 + 2 C_4 L_3 L_4 R_1 g_m +}$

**10.888   INVALID-ORDER-888** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1 C_4 L_1 L_3 L_4 R_1 g_m s^5 + L_3 R_1 g_m s + s^4 \left( C_1 C_4 L_1 L_3 R_1 R_4 g_m + C_4 L_1 L_3 L_4 g_m \right)}{R_1 g_m + s^6 \left( C_1 C_3 C_4 L_1 L_3 L_4 R_1 g_m + C_1 C_3 C_4 L_1 L_3 L_4 \right) + s^5 \left( C_1 C_3 C_4 L_1 L_3 R_1 R_4 g_m + C_1 C_3 C_4 L_1 L_3 R_4 + C_3 C_4 L_1 L_3 L_4 g_m \right) + s^4 \left( C_1 C_3 L_1 L_3 R_1 g_m + C_1 C_3 L_1 L_3 + 2 C_1 C_4 L_1 L_3 R_1 g_m + 2 C_1 C_4 L_1 L_3 + C_1 C_4 L_1 L_4 R_1 g_m + C_1 C_4 L_1 L_4 + C_3 C_4 L_3 L_4 R_1 g_m + C_3 C_4 L_3 L_4 R_1 g_m}$

**10.889   INVALID-ORDER-889** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1 L_1 L_3 L_4 R_1 R_4 g_m s^3 + L_1 L_3 L_4 R_4 g_m s^2 + L_3 L_4 R_1 R_4 g_m s}{2 L_3 R_1 R_4 g_m + 2 L_3 R_4 + L_4 R_1 R_4 g_m + L_4 R_4 + s^4 \left( C_1 C_3 L_1 L_3 L_4 R_1 R_4 g_m + C_1 C_3 L_1 L_3 L_4 R_4 + 2 C_1 C_4 L_1 L_3 L_4 R_1 R_4 g_m + 2 C_1 C_4 L_1 L_3 L_4 R_4 \right) + s^3 \left( 2 C_1 L_1 L_3 L_4 R_1 g_m + 2 C_1 L_1 L_3 L_4 + C_3 L_1 L_3 L_4 R_4 g_m + 2 C_4 L_1 L_3 L_4 R_4 g_m \right) + s^2 \left( 2 C_1 L_1 L_3 R_1 R_4 g_m + 2 C_1 L_1 L_3 R_4 + C_1 L_1 L_4 R_4}$

**10.890   INVALID-ORDER-890** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1 C_4 L_1 L_3 L_4 R_1 R_4 g_m s^5 + L \ldots}{R_1 R_4 g_m + R_4 + s^6 \left( C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_4 g_m + C_1 C_3 C_4 L_1 L_3 L_4 R_4 \right) + s^5 \left( C_1 C_3 L_1 L_3 L_4 R_1 g_m + C_1 C_3 L_1 L_3 L_4 + 2 C_1 C_4 L_1 L_3 L_4 R_1 g_m + 2 C_1 C_4 L_1 L_3 L_4 + C_3 C_4 L_1 L_3 L_4 R_4 g_m \right) + s^4 \left( C_1 C_3 L_1 L_3 R_1 R_4 g_m + C_1 C_3 L_1 L_3 R_4 + C_1 C_4 L_1 L_4 R_1 R_4 g_m + C_1 C_4 L_1 L_4 R_4 + C_3 C_4}$

**10.891   INVALID-ORDER-891** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{L_3 s}{C_3 L_3 s^2 + 1}, \ \frac{R_4 \left( C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1 C_4 L_1 L_3 L_4 R_1 R_4 g_m s^5 + \ldots}{R_1 R_4 g_m + R_4 + s^6 \left( C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_4 g_m + C_1 C_3 C_4 L_1 L_3 L_4 R_4 \right) + s^5 \left( 2 C_1 C_4 L_1 L_3 L_4 R_1 g_m + 2 C_1 C_4 L_1 L_3 L_4 + C_3 C_4 L_1 L_3 L_4 R_4 g_m \right) + s^4 \left( C_1 C_3 L_1 L_3 R_1 R_4 g_m + C_1 C_3 L_1 L_3 R_4 + 2 C_1 C_4 L_1 L_3 R_1 R_4 g_m + 2 C_1 C_4 L_1 L_3 R_4 + C_1 C_4 L_1 L_4 R_1 R_4 g_m + C_1 C_4 L_1 L_4 R_4 + C_3 C_4}$

**10.892   INVALID-ORDER-892** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ R_4, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1 C_3 L_1 L_3 R_1 R_4 g_m s^4 + R_1 R_4 g_m + s^3 \left( C_1 C_3 L_1 R_1 R_3 R_4 g_m + C_3 L_1 L_3 R_4 g_m \right) + s^2 \left( C_1 L_1 R_1 R_4 g_m + C_3 L_1 R_3 R_4 g_m + C_3 L_3 R_1 R_4 g_m \right) + s \left( C_3 R_1 R_3 R_4 g_m + L_1 R_4 g_m \right)}{2 R_1 g_m + s^4 \left( 2 C_1 C_3 L_1 L_3 R_1 g_m + 2 C_1 C_3 L_1 L_3 \right) + s^3 \left( 2 C_1 C_3 L_1 R_1 R_3 g_m + C_1 C_3 L_1 R_1 R_4 g_m + 2 C_1 C_3 L_1 R_3 + C_1 C_3 L_1 R_4 + 2 C_3 L_1 L_3 g_m \right) + s^2 \left( 2 C_1 L_1 R_1 g_m + 2 C_1 L_1 + 2 C_3 L_1 R_3 g_m + C_3 L_1 R_4 g_m + 2 C_3 L_3 R_1 g_m + 2 C_3 L_3 \right) + s \left( 2 C_3 R_1 R_3 g_m + C_3 R_1 R_4 g_m + 2 C_3 R_3 + C_1}$

**10.893   INVALID-ORDER-893** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1 C_3 L_1 L_3 R_1 g_m s^4 + R_1 g_m + s^3 \left( C_1 C_3 L_1 R_1 R_3 g_m + C_3 L_1 L_3 g_m \right) + s^2 \left( C_1 L_1 R_1 g_m + C_3 L_1 R_3 g_m + C_3 L_3 R_1 g_m \right) + s \left( C_3 R_1 R_3 g_m + L_1 g_m \right)}{s^5 \left( 2 C_1 C_3 C_4 L_1 L_3 R_1 g_m + 2 C_1 C_3 C_4 L_1 L_3 \right) + s^4 \left( 2 C_1 C_3 C_4 L_1 R_1 R_3 g_m + 2 C_1 C_3 C_4 L_1 R_3 + 2 C_3 C_4 L_1 L_3 g_m \right) + s^3 \left( C_1 C_3 L_1 R_1 g_m + C_1 C_3 L_1 + 2 C_1 C_4 L_1 R_1 g_m + 2 C_1 C_4 L_1 + 2 C_3 C_4 L_1 R_3 g_m + 2 C_3 C_4 L_3 R_1 g_m + 2 C_3 C_4 L_3 \right) + s^2 \left( 2 C_3 C_4 R_1 R_3 g_m + 2 C_3 C_4 R_3 + C_3 L_1 g_m +}$

**10.894  INVALID-ORDER-894** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 L_1 L_3 R_1 R_4 g_m s^4 + R_1 R_4 g_m + s^3 \left( C_1 C_3 L_1 R_1 R_3 R_4 g_m + \right.}{2 R_1 g_m + s^5 \left( 2 C_1 C_3 C_4 L_1 L_3 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_1 L_3 R_4 \right) + s^4 \left( 2 C_1 C_3 C_4 L_1 R_1 R_3 R_4 g_m + 2 C_1 C_3 C_4 L_1 R_3 R_4 + 2 C_1 C_3 L_1 L_3 R_1 g_m + 2 C_1 C_3 L_1 L_3 + 2 C_3 C_4 L_1 L_3 R_4 g_m \right) + s^3 \left( 2 C_1 C_3 L_1 R_1 R_3 g_m + C_1 C_3 L_1 R_1 R_4 g_m + 2 C_1 C_3 L_1 R_3 + C_1 C_3 L_1 R_4 + 2 C_1 C_4 L_1 R_1 R_4 g_m + 2 C}$$

**10.895  INVALID-ORDER-895** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 R_1 R_4 g_m s^5 + R_1 g_m + s^4 \left( C_1 C_3 C_4 L_1 R_1 R_3 R_4 g_m + C_1 C_3 L_1 L_3 R_1 g_m + C_3 C_4 L_1 L_3 R_4 g_m \right) + s^3 \left( C_1 C_3 L_1 R_1 R_3 g_m + C_1 C_4 L_1 R_1 R_4 g_m + C_3 C_4 L_1 R_3 R_4 g_m + C_3 C_4 L_3 R_1 R_4 g_m + C_3 L_1 L_3 g_m \right) + s^2 \left( C_1 L_1 R_1 g_m + C_3 C_4 \right.}{s^5 \left( 2 C_1 C_3 C_4 L_1 L_3 R_1 g_m + 2 C_1 C_3 C_4 L_1 L_3 \right) + s^4 \left( 2 C_1 C_3 C_4 L_1 R_1 R_3 g_m + C_1 C_3 C_4 L_1 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_1 R_3 + C_1 C_3 C_4 L_1 R_4 + 2 C_3 C_4 L_1 L_3 g_m \right) + s^3 \left( C_1 C_3 L_1 R_1 g_m + C_1 C_3 L_1 + 2 C_1 C_4 L_1 R_1 g_m + 2 C_1 C_4 L_1 + 2 C_3 C_4 L_1 R_3 g_m + C_3 C_4 L_1 R_4 g_m + 2 C_3 C_4 L_3 R_1 g_m + 2 C}$$

**10.896  INVALID-ORDER-896** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 R_1 g_m s^6 + R_1 g_m + s^5 \left( C_1 C_3 C_4 L_1 L_4 R_1 R_3 g_m + C_3 C_4 L_1 L_3 L_4 g_m \right) + s^4 \left( C_1 C_3 L_1 L_3 R_1 g_m + C_1 C_4 L_1 L_4 R_1 g_m + C_3 C_4 L_1 L_3 R_4 g_m + C_3 C_4 L_3 L_4 R_1 g_m \right) + s^3 \left( C_1 C_3 L_1 R_1 R_3 g_m + C_3 C_4 L_4 R_1 R_3 g_m + C_3 L_1 L_3 g_m + C_4 \right.}{s^5 \left( 2 C_1 C_3 C_4 L_1 L_3 R_1 g_m + 2 C_1 C_3 C_4 L_1 L_3 + C_1 C_3 C_4 L_1 L_4 R_1 g_m + C_1 C_3 C_4 L_1 L_4 \right) + s^4 \left( 2 C_1 C_3 C_4 L_1 R_1 R_3 g_m + 2 C_1 C_3 C_4 L_1 R_3 + 2 C_3 C_4 L_1 L_3 g_m + C_3 C_4 L_1 L_4 g_m \right) + s^3 \left( C_1 C_3 L_1 R_1 g_m + C_1 C_3 L_1 + 2 C_1 C_4 L_1 R_1 g_m + 2 C_1 C_4 L_1 + 2 C_3 C_4 L_1 R_3 g_m + 2 C_3 C_4 L_3 R_1 g_m + 2 C}$$

**10.897  INVALID-ORDER-897** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 L_1 L_3 L_4 R_1 g_m s^5 + L_4 R_1 g_m + s^4 \left( C_1 C_3 L_1 L_4 R_1 R_3 g_m + \right.}{2 R_1 g_m + s^6 \left( 2 C_1 C_3 C_4 L_1 L_3 L_4 R_1 g_m + 2 C_1 C_3 C_4 L_1 L_3 L_4 \right) + s^5 \left( 2 C_1 C_3 C_4 L_1 L_4 R_1 R_3 g_m + 2 C_1 C_3 C_4 L_1 L_4 R_3 + 2 C_3 C_4 L_1 L_3 L_4 g_m \right) + s^4 \left( 2 C_1 C_3 L_1 L_3 R_1 g_m + 2 C_1 C_3 L_1 L_3 + C_1 C_3 L_1 L_4 R_1 g_m + C_1 C_3 L_1 L_4 + 2 C_1 C_4 L_1 L_4 R_1 g_m + 2 C_1 C_4 L_1 L_4 + 2 C_3 C_4 L_1 L_4 R_3 g_m + 2 C_3 C}$$

**10.898  INVALID-ORDER-898** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 R_1 g_m s^6 + R_1 g_m + s^5 \left( C_1 C_3 C_4 L_1 L_3 R_1 R_4 g_m + C_1 C_3 C_4 L_1 L_4 R_1 R_3 g_m + C_3 C_4 L_1 L_3 L_4 g_m \right) + s^4 \left( C_1 C_3 C_4 L_1 R_1 R_3 R_4 g_m + C_1 C_3 L_1 L_3 R_1 g_m + C_1 C_4 L_1 L_4 R_1 g_m + C_3 C_4 L_1 L_3 R_4 g_m + C_3 C_4 L_1 L_4 R_3 g_m + C_3 C_4 L_3 L_4 R_1 g_m \right) + s^3 \left( C_1 C_3 L_1 R_1 R_3 g_m + C_1 C_4 \right.}{s^5 \left( 2 C_1 C_3 C_4 L_1 L_3 R_1 g_m + 2 C_1 C_3 C_4 L_1 L_3 + C_1 C_3 C_4 L_1 L_4 R_1 g_m + C_1 C_3 C_4 L_1 L_4 \right) + s^4 \left( 2 C_1 C_3 C_4 L_1 R_1 R_3 g_m + C_1 C_3 C_4 L_1 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_1 R_3 + C_1 C_3 C_4 L_1 R_4 + 2 C_3 C_4 L_1 L_3 g_m + C_3 C_4 L_1 L_4 g_m \right) + s^3 \left( C_1 C_3 L_1 R_1 g_m + C_1 C_3 L_1 + 2 C_1 C_4 L_1 R_1 g_m + 2 C_1 \right.}$$

**10.899  INVALID-ORDER-899** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{}{2 R_1 R_4 g_m + 2 R_4 + s^6 \left( 2 C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_1 L_3 L_4 R_4 \right) + s^5 \left( 2 C_1 C_3 C_4 L_1 L_4 R_1 R_3 R_4 g_m + 2 C_1 C_3 C_4 L_1 L_4 R_3 R_4 + 2 C_1 C_3 L_1 L_3 L_4 R_1 g_m + 2 C_1 C_3 L_1 L_3 L_4 + 2 C_3 C_4 L_1 L_3 L_4 R_4 g_m \right) + s^4 \left( 2 C_1 C_3 L_1 L_3 R_1 R_4 g_m + 2 C_1 C_3 L_1 L_3 R_4 + 2 C_1 C_3 L_1 L_4 R_1 R_3 g_m + \right.}$$

**10.900  INVALID-ORDER-900** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_4 g_m s^6 + R_1 R_4 g_m + s^5 \left( C_1 C_3 C_4 L_1 L_4 R_1 R_3 R_4 g_m + C_1 C_3 L_1 L_3 L_4 R_1 g_m + C_3 C_4 L_1 L_3 L_4 R_4 g_m \right) + s^4 \left( C_1 C_3 L_1 L_3 R_1 R_4 g_m + C_1 C_3 L_1 L_4 R \right.}{2 R_1 g_m + s^6 \left( 2 C_1 C_3 C_4 L_1 L_3 L_4 R_1 g_m + 2 C_1 C_3 C_4 L_1 L_3 L_4 \right) + s^5 \left( 2 C_1 C_3 C_4 L_1 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_1 L_4 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_1 L_4 R_3 + C_1 C_3 C_4 L_1 L_4 R_4 + 2 C_3 C_4 L_1 L_3 L_4 g_m \right) + s^4 \left( 2 C_1 C_3 L_1 L_3 R_1 g_m + 2 C_1 C_3 L_1 L_3 + C_1 C_3 L_1 L_4 R_1 g_m + C_1 C_3 L_1 L_4 + 2 C_1 C_4 L_1 L_4 R_1 g_m \right.}$$

**10.901  INVALID-ORDER-901** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ L_3 s + R_3 + \frac{1}{C_3 s}, \ \frac{R_4 \left( C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{}{2 R_1 g_m + s^6 \left( 2 C_1 C_3 C_4 L_1 L_3 L_4 R_1 g_m + 2 C_1 C_3 C_4 L_1 L_3 L_4 \right) + s^5 \left( 2 C_1 C_3 C_4 L_1 L_3 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_1 L_3 R_4 + 2 C_1 C_3 C_4 L_1 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_1 L_4 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_1 L_4 R_3 + C_1 C_3 C_4 L_1 L_4 R_4 + 2 C_3 C_4 L_1 L_3 L_4 g_m \right) + s^4 \left( 2 C_1 C_3 C_4 L_1 R_1 R_3 R_4 g_m + 2 C_1 C_3 C_4 L_1 \right.}$$

**10.902  INVALID-ORDER-902** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 L_1 L_3 R_1 R_3 R_4 g_m s^3 + L_1 L_3 R_3 R_4 g_m s^2 + L_3 R_1 R_3 R_4 g_m s}{R_1 R_3 R_4 g_m + R_3 R_4 + s^4 \left( C_1 C_3 L_1 L_3 R_1 R_3 R_4 g_m + C_1 C_3 L_1 L_3 R_3 R_4 \right) + s^3 \left( 2 C_1 L_1 L_3 R_1 R_3 g_m + C_1 L_1 L_3 R_1 R_4 g_m + 2 C_1 L_1 L_3 R_3 + C_1 L_1 L_3 R_4 + C_3 L_1 L_3 R_3 R_4 g_m \right) + s^2 \left( C_1 L_1 R_1 R_3 R_4 g_m + C_1 L_1 R_3 R_4 + C_3 L_3 R_1 R_3 R_4 g_m + C_3 L_3 R_3 R_4 + 2 L_1 L_3 R_3 g_m + L_1 L_3 R_4 g_m \right) +}$$

**10.903** **INVALID-ORDER-903** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \; \infty, \; \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \; \frac{1}{C_4 s}, \; \infty, \; \infty \right)$

$H(s) = \frac{C_1 L_1 L_3 R_1 R_3 g_m s^3 + L_1 L_3 R_3 g_m s^2 + L_3 R_1 R_3 g_m s}{R_1 R_3 g_m + R_3 + s^4 \left( C_1 C_3 L_1 L_3 R_1 R_3 g_m + C_1 C_3 L_1 L_3 R_3 + 2 C_1 C_4 L_1 L_3 R_1 R_3 g_m + 2 C_1 C_4 L_1 L_3 R_3 \right) + s^3 \left( C_1 L_1 L_3 R_1 g_m + C_1 L_1 L_3 + C_3 L_1 L_3 R_3 g_m + 2 C_4 L_1 L_3 R_3 g_m \right) + s^2 \left( C_1 L_1 R_1 R_3 g_m + C_1 L_1 R_3 + C_3 L_3 R_1 R_3 g_m + C_3 L_3 R_3 + 2 C_4 L_3 R_1 R_3 g_m + 2 C_4 L_3 R_3 + L_1 L_3 g \right.}$

**10.904** **INVALID-ORDER-904** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \; \infty, \; \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \; \frac{R_4}{C_4 R_4 s + 1}, \; \infty, \; \infty \right)$

$H(s) = \frac{C_1 L_1 L_3 R_1 R_3 R_4 g_m s^3 + L_1 L_3 R_3 R_4 g_m s^2 + L_3 R_1 R_3 R_4 g_m s}{R_1 R_3 R_4 g_m + R_3 R_4 + s^4 \left( C_1 C_3 L_1 L_3 R_1 R_3 R_4 g_m + C_1 C_3 L_1 L_3 R_3 R_4 + 2 C_1 C_4 L_1 L_3 R_1 R_3 R_4 g_m + 2 C_1 C_4 L_1 L_3 R_3 R_4 \right) + s^3 \left( 2 C_1 L_1 L_3 R_1 R_3 g_m + C_1 L_1 L_3 R_1 R_4 g_m + 2 C_1 L_1 L_3 R_3 + C_1 L_1 L_3 R_4 + C_3 L_1 L_3 R_3 R_4 g_m + 2 C_4 L_1 L_3 R_3 R_4 g_m \right) + s^2 \left( C_1 L_1 R_1 R_3 R_4 g_m + C_1 L_1 R_3 \right.}$

**10.905** **INVALID-ORDER-905** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \; \infty, \; \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \; R_4 + \frac{1}{C_4 s}, \; \infty, \; \infty \right)$

$H(s) = \frac{C_1 C_4 L_1 L_3 R_1 R_3 R_4 g_m s^4 + L_3 R_1 R_3}{R_1 R_3 g_m + R_3 + s^5 \left( C_1 C_3 C_4 L_1 L_3 R_1 R_3 R_4 g_m + C_1 C_3 C_4 L_1 L_3 R_3 R_4 \right) + s^4 \left( C_1 C_3 L_1 L_3 R_1 R_3 g_m + C_1 C_3 L_1 L_3 R_3 + 2 C_1 C_4 L_1 L_3 R_1 R_3 g_m + C_1 C_4 L_1 L_3 R_1 R_4 g_m + 2 C_1 C_4 L_1 L_3 R_3 + C_1 C_4 L_1 L_3 R_4 + C_3 C_4 L_1 L_3 R_3 R_4 g_m \right) + s^3 \left( C_1 C_4 L_1 R_1 R_3 R_4 g_m + C_1 C_4 L_1 R_3 R_4 + C_1 L_1 \right.}$

**10.906** **INVALID-ORDER-906** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \; \infty, \; \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \; L_4 s + \frac{1}{C_4 s}, \; \infty, \; \infty \right)$

$H(s) = \frac{C_1 C_4 L_1 L_3 L_4 R_1 R_3 g_m s^5 + C_4 L_1}{R_1 R_3 g_m + R_3 + s^6 \left( C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_1 L_3 L_4 R_3 \right) + s^5 \left( C_1 C_4 L_1 L_3 L_4 R_1 g_m + C_1 C_4 L_1 L_3 L_4 + C_3 C_4 L_1 L_3 L_4 R_3 g_m \right) + s^4 \left( C_1 C_3 L_1 L_3 R_1 R_3 g_m + C_1 C_3 L_1 L_3 R_3 + 2 C_1 C_4 L_1 L_3 R_1 R_3 g_m + 2 C_1 C_4 L_1 L_3 R_3 + C_1 C_4 L_1 L_4 R_1 R_3 g_m + C_1 C_4 L_1 L_4 R_3 + C_3 C_4 \right.}$

**10.907** **INVALID-ORDER-907** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \; \infty, \; \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \; \frac{L_4 s}{C_4 L_4 s^2 + 1}, \; \infty, \; \infty \right)$

$H(s) = \frac{C_1 L_1 L_3 L_4 R_1 R_3 g_m s^3 + L_1 L_3 L_4 R_3 g_m s^2 + L_3 L_4 R_1 R_3 g_m s}{2 L_3 R_1 R_3 g_m + 2 L_3 R_3 + L_4 R_1 R_3 g_m + L_4 R_3 + s^4 \left( C_1 C_3 L_1 L_3 L_4 R_1 R_3 g_m + C_1 C_3 L_1 L_3 L_4 R_3 + 2 C_1 C_4 L_1 L_3 L_4 R_1 R_3 g_m + 2 C_1 C_4 L_1 L_3 L_4 R_3 \right) + s^3 \left( C_1 L_1 L_3 L_4 R_1 g_m + C_1 L_1 L_3 L_4 + C_3 L_1 L_3 L_4 R_3 g_m + 2 C_4 L_1 L_3 L_4 R_3 g_m \right) + s^2 \left( 2 C_1 L_1 L_3 R_1 R_3 g_m + 2 C_1 L_1 L_3 R_3 + C_1 L_1 \right.}$

**10.908** **INVALID-ORDER-908** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \; \infty, \; \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \; L_4 s + R_4 + \frac{1}{C_4 s}, \; \infty, \; \infty \right)$

$H(s) = \frac{}{R_1 R_3 g_m + R_3 + s^6 \left( C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_1 L_3 L_4 R_3 \right) + s^5 \left( C_1 C_3 C_4 L_1 L_3 R_1 R_3 R_4 g_m + C_1 C_3 C_4 L_1 L_3 R_3 R_4 + C_1 C_4 L_1 L_3 L_4 R_1 g_m + C_1 C_4 L_1 L_3 L_4 + C_3 C_4 L_1 L_3 L_4 R_3 g_m \right) + s^4 \left( C_1 C_3 L_1 L_3 R_1 R_3 g_m + C_1 C_3 L_1 L_3 R_3 + 2 C_1 C_4 L_1 L_3 R_1 R_3 g_m + C_1 C_4 L_1 L_3 R \right.}$

**10.909** **INVALID-ORDER-909** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \; \infty, \; \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \; \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \; \infty, \; \infty \right)$

$H(s) = \frac{C_1 L}{2 L_3 R_1 R_3 R_4 g_m + 2 L_3 R_3 R_4 + L_4 R_1 R_3 R_4 g_m + L_4 R_3 R_4 + s^4 \left( C_1 C_3 L_1 L_3 L_4 R_1 R_3 R_4 g_m + C_1 C_3 L_1 L_3 L_4 R_3 R_4 + 2 C_1 C_4 L_1 L_3 L_4 R_1 R_3 R_4 g_m + 2 C_1 C_4 L_1 L_3 L_4 R_3 R_4 \right) + s^3 \left( 2 C_1 L_1 L_3 L_4 R_1 R_3 g_m + C_1 L_1 L_3 L_4 R_1 R_4 g_m + 2 C_1 L_1 L_3 L_4 R_3 + C_1 L_1 L_3 L_4 R_4 + C_3 L_1 L_3 L_4 R_3 R_4 \right.}$

**10.910** **INVALID-ORDER-910** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \; \infty, \; \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \; \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \; \infty, \; \infty \right)$

$H(s) = \frac{}{R_1 R_3 R_4 g_m + R_3 R_4 + s^6 \left( C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_3 R_4 g_m + C_1 C_3 C_4 L_1 L_3 L_4 R_3 R_4 \right) + s^5 \left( C_1 C_3 L_1 L_3 L_4 R_1 R_3 g_m + C_1 C_3 L_1 L_3 L_4 R_3 + 2 C_1 C_4 L_1 L_3 L_4 R_1 R_3 g_m + C_1 C_4 L_1 L_3 L_4 R_1 R_4 g_m + 2 C_1 C_4 L_1 L_3 L_4 R_3 + C_1 C_4 L_1 L_3 L_4 R_4 + C_3 C_4 L_1 L_3 L_4 R_3 R_4 g_m \right) + s^4 \left( C_1 C_3 L_1 L_3 R_1 \right.}$

**10.911** **INVALID-ORDER-911** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \; \infty, \; \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \; \frac{R_4 \left( C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \; \infty, \; \infty \right)$

$H(s) = \frac{}{R_1 R_3 R_4 g_m + R_3 R_4 + s^6 \left( C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_3 R_4 g_m + C_1 C_3 C_4 L_1 L_3 L_4 R_3 R_4 \right) + s^5 \left( 2 C_1 C_4 L_1 L_3 L_4 R_1 R_3 g_m + C_1 C_4 L_1 L_3 L_4 R_1 R_4 g_m + 2 C_1 C_4 L_1 L_3 L_4 R_3 + C_1 C_4 L_1 L_3 L_4 R_4 + C_3 C_4 L_1 L_3 L_4 R_3 R_4 g_m \right) + s^4 \left( C_1 C_3 L_1 L_3 R_1 R_3 R_4 g_m + C_1 C_3 L_1 L_3 R_3 R_4 + 2 C_1 C_4 L_1 L_3 R \right.}$

**10.912  INVALID-ORDER-912** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ R_4, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1 C_3 L_1 L_3 R_1 R_3 R_4 g_m s^4 + R_1 R_3 R_4 g_m + s^3 \left( C_1 L_1 L_3 R_1 R_4 g_m + C_3 L_1 L_3 R_3 R_4 g_m \right) + s^2 \left( C_1 L_1 R_1 R_3 R_4 g_m + C_3 L_3 R_1 R_3 R_4 g_m + L_1 L_3 R_4 g_m \right) + s \left( L_1 R_3 R_4 g_m + L_3 R_1 R \right.}{2 R_1 R_3 g_m + R_1 R_4 g_m + 2 R_3 + R_4 + s^4 \left( 2 C_1 C_3 L_1 L_3 R_1 R_3 g_m + C_1 C_3 L_1 L_3 R_1 R_4 g_m + 2 C_1 C_3 L_1 L_3 R_3 + C_1 C_3 L_1 L_3 R_4 \right) + s^3 \left( 2 C_1 L_1 L_3 R_1 g_m + 2 C_1 L_1 L_3 + 2 C_3 L_1 L_3 R_3 g_m + C_3 L_1 L_3 R_4 g_m \right) + s^2 \left( 2 C_1 L_1 R_1 R_3 g_m + C_1 L_1 R_1 R_4 g_m + 2 C_1 L_1 R_3 + C_1 L_1 R_4 + 2 C_3 L_3 R_1 R_3 \right.}$

**10.913  INVALID-ORDER-913** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1 C_3 L_1 L_3 R_1 R_3 g_m s^4 + R_1 R_3 g_m + s^3 \left( C_1 L_1 L_3 R_1 g_m + C_3 L_1 L_3 R_3 g_m \right) + s^2 \left( C_1 L_1 R_1 R_3 g_m + C_3 L_3 R_1 R_3 g_m + L_1 L_3 g_m \right) + s \left( L_1 R_3 g_m + L_3 R_1 g_m \right.}{R_1 g_m + s^5 \left( 2 C_1 C_3 C_4 L_1 L_3 R_1 R_3 g_m + 2 C_1 C_3 C_4 L_1 L_3 R_3 \right) + s^4 \left( C_1 C_3 L_1 L_3 R_1 g_m + C_1 C_3 L_1 L_3 + 2 C_1 C_4 L_1 L_3 R_1 g_m + 2 C_1 C_4 L_1 L_3 + 2 C_3 C_4 L_1 L_3 R_3 g_m \right) + s^3 \left( 2 C_1 C_4 L_1 R_1 R_3 g_m + 2 C_1 C_4 L_1 R_3 + 2 C_3 C_4 L_3 R_1 R_3 g_m + 2 C_3 C_4 L_3 R_3 + C_3 L_1 L_3 g_m + 2 C_4 L_1 L_3 g_m \right) + s^2 \left( C_1 \right.}$

**10.914  INVALID-ORDER-914** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1 C_3 L_1 L_3 R_1 R_3 \ldots}{2 R_1 R_3 g_m + R_1 R_4 g_m + 2 R_3 + R_4 + s^5 \left( 2 C_1 C_3 C_4 L_1 L_3 R_1 R_3 R_4 g_m + 2 C_1 C_3 C_4 L_1 L_3 R_3 R_4 \right) + s^4 \left( 2 C_1 C_3 L_1 L_3 R_1 R_3 g_m + C_1 C_3 L_1 L_3 R_1 R_4 g_m + 2 C_1 C_3 L_1 L_3 R_3 + C_1 C_3 L_1 L_3 R_4 + 2 C_1 C_4 L_1 L_3 R_1 R_4 g_m + 2 C_1 C_4 L_1 L_3 R_4 + 2 C_3 C_4 L_1 L_3 R_3 R_4 g_m \right) + s^3 \left( 2 C_1 C_4 L_1 R_1 R_3 R_4 g \right.}$

**10.915  INVALID-ORDER-915** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1 C_3 C_4 L_1 L_3 R_1 R_3 R_4 g_m s^5 + R_1 R_3 g_m + s^4 \left( C_1 C_3 L_1 L_3 R_1 R_3 g_m + C_1 C_4 L_1 L_3 R_1 R_4 g_m + C_3 C_4 L_1 L_3 R_3 R_4 g_m \right) + s^3 \left( C_1 C_4 L_1 R_1 R_3 R_4 g_m + C_1 L_1 L_3 R_1 g_m + C \right.}{R_1 g_m + s^5 \left( 2 C_1 C_3 C_4 L_1 L_3 R_1 R_3 g_m + C_1 C_3 C_4 L_1 L_3 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_1 L_3 R_3 + C_1 C_3 C_4 L_1 L_3 R_4 \right) + s^4 \left( C_1 C_3 L_1 L_3 R_1 g_m + C_1 C_3 L_1 L_3 + 2 C_1 C_4 L_1 L_3 R_1 g_m + 2 C_1 C_4 L_1 L_3 + 2 C_3 C_4 L_1 L_3 R_3 g_m + C_3 C_4 L_1 L_3 R_4 g_m \right) + s^3 \left( 2 C_1 C_4 L_1 R_1 R_3 g_m + C_1 C_4 L_1 R_1 R_4 g_m + 2 C_1 \right.}$

**10.916  INVALID-ORDER-916** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_3 g_m s^6 + R_1 R_3 g_m + s^5 \left( C_1 C_4 L_1 L_3 L_4 R_1 g_m + C_3 C_4 L_1 L_3 L_4 R_3 g_m \right) + s^4 \left( C_1 C_3 L_1 L_3 R_1 R_3 g_m + C_1 C_4 L_1 L_4 R_1 R_3 g_m + C_3 C_4 L_3 L_4 R_1 R_3 g \right.}{R_1 g_m + s^6 \left( C_1 C_3 C_4 L_1 L_3 L_4 R_1 g_m + C_1 C_3 C_4 L_1 L_3 L_4 \right) + s^5 \left( 2 C_1 C_3 C_4 L_1 L_3 R_1 R_3 g_m + 2 C_1 C_3 C_4 L_1 L_3 R_3 + C_3 C_4 L_1 L_3 L_4 g_m \right) + s^4 \left( C_1 C_3 L_1 L_3 R_1 g_m + C_1 C_3 L_1 L_3 + 2 C_1 C_4 L_1 L_3 R_1 g_m + 2 C_1 C_4 L_1 L_3 + C_1 C_4 L_1 L_4 R_1 g_m + C_1 C_4 L_1 L_4 + 2 C_3 C_4 L_1 L_3 R_3 g_m + C_3 C_4 L_3 L_4 \right.}$

**10.917  INVALID-ORDER-917** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1 C_3 L_1 L_3 L_4 R_1 \ldots}{2 R_1 R_3 g_m + 2 R_3 + s^6 \left( 2 C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_3 g_m + 2 C_1 C_3 C_4 L_1 L_3 L_4 R_3 \right) + s^5 \left( C_1 C_3 L_1 L_3 L_4 R_1 g_m + C_1 C_3 L_1 L_3 L_4 + 2 C_1 C_4 L_1 L_3 L_4 R_1 g_m + 2 C_1 C_4 L_1 L_3 L_4 + 2 C_3 C_4 L_1 L_3 L_4 R_3 g_m \right) + s^4 \left( 2 C_1 C_3 L_1 L_3 R_1 R_3 g_m + 2 C_1 C_3 L_1 L_3 R_3 + 2 C_1 C_4 L_1 L_4 R_1 R_3 g_m + 2 C_1 C_4 L_1 L_4 R \right.}$

**10.918  INVALID-ORDER-918** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_3 g_m s^6 + R_1 R_3 g_m + s^5 \left( C_1 C_3 C_4 L_1 L_3 R_1 R_3 R_4 g_m + C_1 C_4 L_1 L_3 L_4 R_1 g_m + C_3 C_4 L_1 L_3 L_4 R_3 g_m \right) + s^4 \left( C_1 C_3 L_1 L_3 R_1 R_3 g_m + C_1 C_4 L_1 L_3 R_1 R_4 g_m + \right.}{R_1 g_m + s^6 \left( C_1 C_3 C_4 L_1 L_3 L_4 R_1 g_m + C_1 C_3 C_4 L_1 L_3 L_4 \right) + s^5 \left( 2 C_1 C_3 C_4 L_1 L_3 R_1 R_3 g_m + C_1 C_3 C_4 L_1 L_3 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_1 L_3 R_3 + C_1 C_3 C_4 L_1 L_3 R_4 + C_3 C_4 L_1 L_3 L_4 g_m \right) + s^4 \left( C_1 C_3 L_1 L_3 R_1 g_m + C_1 C_3 L_1 L_3 + 2 C_1 C_4 L_1 L_3 R_1 g_m + 2 C_1 C_4 L_1 L_3 + C_1 C_4 L_1 L_4 R_1 g_m + C \right.}$

**10.919  INVALID-ORDER-919** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{\ldots}{2 R_1 R_3 R_4 g_m + 2 R_3 R_4 + s^6 \left( 2 C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_3 R_4 g_m + 2 C_1 C_3 C_4 L_1 L_3 L_4 R_3 R_4 \right) + s^5 \left( 2 C_1 C_3 L_1 L_3 L_4 R_1 R_3 g_m + C_1 C_3 L_1 L_3 L_4 R_1 R_4 g_m + 2 C_1 C_3 L_1 L_3 L_4 R_3 + C_1 C_3 L_1 L_3 L_4 R_4 + 2 C_1 C_4 L_1 L_3 L_4 R_1 R_4 g_m + 2 C_1 C_4 L_1 L_3 L_4 R_4 + 2 C_3 C_4 L_1 L_3 L_4 R_3 R_4 g_m \right) + s^4 \left( 2 C_1 C_3 \right.}$

**10.920  INVALID-ORDER-920** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_3 R_4 g_m s^6 + R_1 R \ldots}{2 R_1 R_3 g_m + R_1 R_4 g_m + 2 R_3 + R_4 + s^6 \left( 2 C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_1 L_3 L_4 R_3 + C_1 C_3 C_4 L_1 L_3 L_4 R_4 \right) + s^5 \left( C_1 C_3 L_1 L_3 L_4 R_1 g_m + C_1 C_3 L_1 L_3 L_4 + 2 C_1 C_4 L_1 L_3 L_4 R_1 g_m + 2 C_1 C_4 L_1 L_3 L_4 + 2 C_3 C_4 L_1 L_3 L_4 R_3 g_m + C_3 C_4 L_1 L_3 L_4 R \right.}$

**10.921  INVALID-ORDER-921** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ \frac{R_4 \left( C_4 L_4 s^2 + 1 \right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{\ldots}{2 R_1 R_3 g_m + R_1 R_4 g_m + 2 R_3 + R_4 + s^6 \left( 2 C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_1 L_3 L_4 R_3 + C_1 C_3 C_4 L_1 L_3 L_4 R_4 \right) + s^5 \left( 2 C_1 C_3 C_4 L_1 L_3 R_1 R_3 R_4 g_m + 2 C_1 C_3 C_4 L_1 L_3 R_3 R_4 + 2 C_1 C_4 L_1 L_3 L_4 R_1 g_m + 2 C_1 C_4 L_1 L_3 L_4 + 2 C_3 C_4 L_1 L_3 L_4 R_3 g_m + C \right.}$

**10.922 INVALID-ORDER-922** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ R_4, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 L_1 L_3 R_1 R_3 R_4 g_m s^4 + C_3 L_1 L_3 R_3 R_4 g_m s^3 + L_1 R_3 R_4 g_m s + R_1 R_3 R_4 g_m + s^2\left(C_1 L_1 R_1 R_3 R_4 g_m + C_3 L_3 R_1 R_3 R_4 g_m\right)}{2 R_1 R_3 g_m + R_1 R_4 g_m + 2 R_3 + R_4 + s^4\left(2 C_1 C_3 L_1 L_3 R_1 R_3 g_m + C_1 C_3 L_1 L_3 R_1 R_4 g_m + 2 C_1 C_3 L_1 L_3 R_3 + C_1 C_3 L_1 L_3 R_4\right) + s^3\left(C_1 C_3 L_1 R_1 R_3 R_4 g_m + C_1 C_3 L_3 R_3 R_4 + 2 C_3 L_3 L_3 R_3 g_m + C_3 L_3 L_3 R_4 g_m\right) + s^2\left(2 C_1 L_1 R_1 R_3 g_m + C_1 L_1 R_1 R_4 g_m + 2 C_1 L_1 R_3 + C_1 L_1 R_4 + C_3 L_3 \cdots\right)}$

**10.923 INVALID-ORDER-923** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 L_1 L_3 R_1 R_3 g_m s^4 + C_3 L_1 L_3 R_3 g_m s^3 + L_1 R_3 g_m s + R_1 R_3 g_m + s^2\left(C_1 L_1 R_1 R_3 g_m + C_3 L_3 R_1 R_3 g_m\right)}{R_1 g_m + s^5\left(2 C_1 C_3 C_4 L_1 L_3 R_1 R_3 g_m + 2 C_1 C_3 C_4 L_1 L_3 R_3\right) + s^4\left(C_1 C_3 L_1 L_3 R_1 g_m + C_1 C_3 L_1 L_3 + 2 C_3 C_4 L_1 L_3 R_3 g_m\right) + s^3\left(C_1 C_3 L_1 R_1 R_3 g_m + C_1 C_3 L_1 R_3 + 2 C_1 C_4 L_1 R_1 R_3 g_m + 2 C_1 C_4 L_1 R_3 + 2 C_3 C_4 L_3 R_1 R_3 g_m + 2 C_3 C_4 L_3 R_3 + C_3 L_1 L_3 g_m\right) + s^2\left(C_1 L_1 R_1 g_m + C_1 L_1 \cdots\right)}$

**10.924 INVALID-ORDER-924** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 L_1 L_3 R_1 R_3 R_4 g_m s \cdots}{2 R_1 R_3 g_m + R_1 R_4 g_m + 2 R_3 + R_4 + s^5\left(2 C_1 C_3 C_4 L_1 L_3 R_1 R_3 R_4 g_m + 2 C_1 C_3 C_4 L_1 L_3 R_3 R_4\right) + s^4\left(2 C_1 C_3 L_1 L_3 R_1 R_3 g_m + C_1 C_3 L_1 L_3 R_1 R_4 g_m + 2 C_1 C_3 L_1 L_3 R_3 + C_1 C_3 L_1 L_3 R_4 + 2 C_3 C_4 L_1 L_3 R_3 R_4 g_m\right) + s^3\left(C_1 C_3 L_1 R_1 R_3 R_4 g_m + C_1 C_3 L_1 R_3 R_4 + 2 C_1 C_4 L_1 R_1 R_3 R_4 g_m \cdots\right)}$

**10.925 INVALID-ORDER-925** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 R_1 R_3 R_4 g_m s^5 + R_1 R_3 g_m + s^4\left(C_1 C_3 L_1 L_3 R_1 R_3 \cdots\right)}{R_1 g_m + s^5\left(2 C_1 C_3 C_4 L_1 L_3 R_1 R_3 g_m + C_1 C_3 C_4 L_1 L_3 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_1 L_3 R_3 + C_1 C_3 C_4 L_1 L_3 R_4\right) + s^4\left(C_1 C_3 C_4 L_1 R_1 R_3 R_4 g_m + C_1 C_3 C_4 L_1 R_3 R_4 + C_1 C_3 L_1 L_3 R_1 g_m + C_1 C_3 L_1 L_3 + 2 C_3 C_4 L_1 L_3 R_3 g_m + C_3 C_4 L_1 L_3 R_4 g_m\right) + s^3\left(C_1 C_3 L_1 R_1 R_3 g_m + C_1 C_3 L_1 R_3 + 2 \cdots\right)}$

**10.926 INVALID-ORDER-926** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_3 g_m s^6 + C_3 C_4 L_1 L_3 L_4 R_3 g_m s^5 + L_1 R_3 g \cdots}{R_1 g_m + s^6\left(C_1 C_3 C_4 L_1 L_3 L_4 R_1 g_m + C_1 C_3 C_4 L_1 L_3 L_4\right) + s^5\left(2 C_1 C_3 C_4 L_1 L_3 R_1 R_3 g_m + 2 C_1 C_3 C_4 L_1 L_3 R_3 + C_1 C_3 C_4 L_1 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_1 L_4 R_3 + C_3 C_4 L_1 L_3 L_4 g_m\right) + s^4\left(C_1 C_3 L_1 L_3 R_1 g_m + C_1 C_3 L_1 L_3 + C_1 C_4 L_1 L_4 R_1 g_m + C_1 C_4 L_1 L_4 + 2 C_3 C_4 L_1 L_3 R_3 g_m + C_3 \cdots\right)}$

**10.927 INVALID-ORDER-927** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 L_1 L_3 L_4 R_1 R_3 g_m s^5 \cdots}{2 R_1 R_3 g_m + 2 R_3 + s^6\left(2 C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_3 g_m + 2 C_1 C_3 C_4 L_1 L_3 L_4 R_3\right) + s^5\left(C_1 C_3 L_1 L_3 L_4 R_1 g_m + C_1 C_3 L_1 L_3 L_4 + 2 C_3 C_4 L_1 L_3 L_4 R_3 g_m\right) + s^4\left(2 C_1 C_3 L_1 L_3 R_1 R_3 g_m + 2 C_1 C_3 L_1 L_3 R_3 + C_1 C_3 L_1 L_4 R_1 R_3 g_m + C_1 C_3 L_1 L_4 R_3 + 2 C_1 C_4 L_1 L_4 R_1 R_3 g_m + 2 C_1 C_4 L_1 L_4 R_3 \cdots\right)}$

**10.928 INVALID-ORDER-928** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{\cdots}{R_1 g_m + s^6\left(C_1 C_3 C_4 L_1 L_3 L_4 R_1 g_m + C_1 C_3 C_4 L_1 L_3 L_4\right) + s^5\left(2 C_1 C_3 C_4 L_1 L_3 R_1 R_3 g_m + C_1 C_3 C_4 L_1 L_3 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_1 L_3 R_3 + C_1 C_3 C_4 L_1 L_3 R_4 + C_1 C_3 C_4 L_1 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_1 L_4 R_3 + C_3 C_4 L_1 L_3 L_4 g_m\right) + s^4\left(C_1 C_3 C_4 L_1 R_1 R_3 R_4 g_m + C_1 C_3 C_4 L_1 R_3 R_4 + \cdots\right)}$

**10.929 INVALID-ORDER-929** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$H(s) = \frac{\cdots}{2 R_1 R_3 R_4 g_m + 2 R_3 R_4 + s^6\left(2 C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_3 R_4 g_m + 2 C_1 C_3 C_4 L_1 L_3 L_4 R_3 R_4\right) + s^5\left(2 C_1 C_3 L_1 L_3 L_4 R_1 R_3 g_m + C_1 C_3 L_1 L_3 L_4 R_1 R_4 g_m + 2 C_1 C_3 L_1 L_3 L_4 R_3 + C_1 C_3 L_1 L_3 L_4 R_4 + 2 C_3 C_4 L_1 L_3 L_4 R_3 R_4 g_m\right) + s^4\left(2 C_1 C_3 L_1 L_3 R_1 R_3 R_4 g_m + 2 C_1 C_3 L_1 L_3 R_3 R_4 + C_1 C_3 \cdots\right)}$

**10.930 INVALID-ORDER-930** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$H(s) = \frac{\cdots}{2 R_1 R_3 g_m + R_1 R_4 g_m + 2 R_3 + R_4 + s^6\left(2 C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_1 L_3 L_4 R_3 + C_1 C_3 C_4 L_1 L_3 L_4 R_4\right) + s^5\left(C_1 C_3 C_4 L_1 L_4 R_1 R_3 R_4 g_m + C_1 C_3 C_4 L_1 L_4 R_3 R_4 + C_1 C_3 L_1 L_3 L_4 R_1 g_m + C_1 C_3 L_1 L_3 L_4 + 2 C_3 C_4 L_1 L_3 L_4 R_3 g_m + C_3 C_4 L_1 \cdots\right)}$

**10.931 INVALID-ORDER-931** $Z(s) = \left( \frac{C_1 L_1 R_1 s^2 + L_1 s + R_1}{C_1 L_1 s^2 + 1}, \ \infty, \ \frac{R_3(C_3 L_3 s^2 + 1)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \ \frac{R_4(C_4 L_4 s^2 + 1)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4 + s^6 \left( 2C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_4 g_m + 2C_1 C_3 C_4 L_1 L_3 L_4 R_3 + C_1 C_3 C_4 L_1 L_3 L_4 R_4 \right) + s^5 \left( 2C_1 C_3 C_4 L_1 L_3 R_1 R_3 g_m + 2C_1 C_3 C_4 L_1 L_3 R_3 R_4 + C_1 C_3 C_4 L_1 L_4 R_1 R_3 R_4 g_m + C_1 C_3 C_4 L_1 L_4 R_3 R_4 + 2C_3 C_4 L_1 L_3 L_4 R}{}$$

**10.932 INVALID-ORDER-932** $Z(s) = \left( \frac{R_1(C_1 L_1 s^2 + 1)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ R_3, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 L_1 R_1 R_3 g_m s^2 + R_1 R_3 g_m}{R_1 g_m + s^3 \left( 2C_1 C_4 L_1 R_1 R_3 g_m + 2C_1 C_4 L_1 R_3 \right) + s^2 \left( 2C_1 C_4 R_1 R_3 + C_1 L_1 R_1 g_m + C_1 L_1 \right) + s \left( C_1 R_1 + 2C_4 R_1 R_3 g_m + 2C_4 R_3 \right) + 1}$$

**10.933 INVALID-ORDER-933** $Z(s) = \left( \frac{R_1(C_1 L_1 s^2 + 1)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ R_3, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 L_1 R_1 R_3 R_4 g_m s^2 + R_1 R_3 R_4 g_m}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4 + s^3 \left( 2C_1 C_4 L_1 R_1 R_3 R_4 g_m + 2C_1 C_4 L_1 R_3 R_4 \right) + s^2 \left( 2C_1 C_4 R_1 R_3 R_4 + 2C_1 L_1 R_1 R_3 g_m + C_1 L_1 R_1 R_4 g_m + 2C_1 L_1 R_3 + C_1 L_1 R_4 \right) + s \left( 2C_1 R_1 R_3 + C_1 R_1 R_4 + 2C_4 R_1 R_3 R_4 g_m + 2C_4 R_3 R_4 \right)}$$

**10.934 INVALID-ORDER-934** $Z(s) = \left( \frac{R_1(C_1 L_1 s^2 + 1)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ R_3, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_4 L_1 R_1 R_3 R_4 g_m s^3 + C_1 L_1 R_1 R_3 g_m s^2 + C_4 R_1 R_3 R_4 g_m s + R_1 R_3 g_m}{R_1 g_m + s^3 \left( 2C_1 C_4 L_1 R_1 R_3 g_m + C_1 C_4 L_1 R_1 R_4 g_m + 2C_1 C_4 L_1 R_3 + C_1 C_4 L_1 R_4 \right) + s^2 \left( 2C_1 C_4 R_1 R_3 + C_1 C_4 R_1 R_4 + C_1 L_1 R_1 g_m + C_1 L_1 \right) + s \left( C_1 R_1 + 2C_4 R_1 R_3 g_m + C_4 R_1 R_4 g_m + 2C_4 R_3 + C_4 R_4 \right) + 1}$$

**10.935 INVALID-ORDER-935** $Z(s) = \left( \frac{R_1(C_1 L_1 s^2 + 1)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ R_3, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_4 L_1 L_4 R_1 R_3 g_m s^4 + R_1 R_3 g_m + s^2 \left( C_1 L_1 R_1 R_3 g_m + C_4 L_4 R_1 R_3 g_m \right)}{R_1 g_m + s^4 \left( C_1 C_4 L_1 L_4 R_1 g_m + C_1 C_4 L_1 L_4 \right) + s^3 \left( 2C_1 C_4 L_1 R_1 R_3 g_m + 2C_1 C_4 L_1 R_3 + C_1 C_4 L_4 R_1 \right) + s^2 \left( 2C_1 C_4 R_1 R_3 + C_1 L_1 R_1 g_m + C_1 L_1 + C_4 L_4 R_1 g_m + C_4 L_4 \right) + s \left( C_1 R_1 + 2C_4 R_1 R_3 g_m + 2C_4 R_3 \right) + 1}$$

**10.936 INVALID-ORDER-936** $Z(s) = \left( \frac{R_1(C_1 L_1 s^2 + 1)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ R_3, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 L_1 L_4 R_1 R_3 g_m s^3 + L_4 R_1 R_3 g_m s}{2R_1 R_3 g_m + 2R_3 + s^4 \left( 2C_1 C_4 L_1 L_4 R_1 R_3 g_m + 2C_1 C_4 L_1 L_4 R_3 \right) + s^3 \left( 2C_1 C_4 L_4 R_1 R_3 + C_1 L_1 L_4 R_1 g_m + C_1 L_1 L_4 \right) + s^2 \left( 2C_1 L_1 R_1 R_3 g_m + 2C_1 L_1 R_3 + C_1 L_4 R_1 + 2C_4 L_4 R_1 R_3 g_m + 2C_4 L_4 R_3 \right) + s \left( 2C_1 R_1 R_3 + L_4 R_1 g_m + L_4 \right)}$$

**10.937 INVALID-ORDER-937** $Z(s) = \left( \frac{R_1(C_1 L_1 s^2 + 1)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ R_3, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_4 L_1 L_4 R_1 R_3 g_m s^4 + C_1 C_4 L_1 R_1 R_3 R_4 g_m s^3 + C_4 R_1 R_3 R_4 g_m s + R_1 R_3 g_m + s^2 \left( C_1 L_1 R_1 R_3 g_m + C_4 L_4 R_1 R_3 g_m \right)}{R_1 g_m + s^4 \left( C_1 C_4 L_1 L_4 R_1 g_m + C_1 C_4 L_1 L_4 \right) + s^3 \left( 2C_1 C_4 L_1 R_1 R_3 g_m + C_1 C_4 L_1 R_1 R_4 g_m + 2C_1 C_4 L_1 R_3 + C_1 C_4 L_1 R_4 + C_1 C_4 L_4 R_1 \right) + s^2 \left( 2C_1 C_4 R_1 R_3 + C_1 C_4 R_1 R_4 + C_1 L_1 R_1 g_m + C_1 L_1 + C_4 L_4 R_1 g_m + C_4 L_4 \right) + s \left( C_1 R_1 + 2C_4 R_1 R_3 g_m + C_4 R_1 R_4 g_m + 2C_4 R_3 + C_4}$$

**10.938 INVALID-ORDER-938** $Z(s) = \left( \frac{R_1(C_1 L_1 s^2 + 1)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ R_3, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 L_1 L_4 R_1 R_3 R_4 g_m s^3 + L_4 R_1 R_3 R_4 g_m s}{2R_1 R_3 R_4 g_m + 2R_3 R_4 + s^4 \left( 2C_1 C_4 L_1 L_4 R_1 R_3 R_4 g_m + 2C_1 C_4 L_1 L_4 R_3 R_4 \right) + s^3 \left( 2C_1 C_4 L_4 R_1 R_3 R_4 + 2C_1 L_1 L_4 R_1 R_3 g_m + C_1 L_1 L_4 R_1 R_4 g_m + 2C_1 L_1 L_4 R_3 + C_1 L_1 L_4 R_4 \right) + s^2 \left( 2C_1 L_1 R_1 R_3 R_4 g_m + 2C_1 L_1 R_3 R_4 + 2C_1 L_4 R_1 R_3 + C_1 L_4 R_1 R_4 + 2C_4 L_4 R_1 R_3 R_4 g_m + 2C_4}$$

**10.939 INVALID-ORDER-939** $Z(s) = \left( \frac{R_1(C_1 L_1 s^2 + 1)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ R_3, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_4 L_1 L_4 R_1 R_3 R_4 g_m s^4 + C_1 L_1 L_4 R_1 R_3 g_m s^3 + L_4 R_1 R_3 g_m s + R_1 R_3 R_4 g_m + s^2 \left( C_1 L_1 R_1 R_3 R_4 g_m + C_4 L_4 R_1 R_3 R_4 g_m \right)}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4 + s^4 \left( 2C_1 C_4 L_1 L_4 R_1 R_3 g_m + C_1 C_4 L_1 L_4 R_1 R_4 g_m + 2C_1 C_4 L_1 L_4 R_3 + C_1 C_4 L_1 L_4 R_4 \right) + s^3 \left( 2C_1 C_4 L_4 R_1 R_3 + C_1 C_4 L_4 R_1 R_4 + C_1 L_1 L_4 R_1 g_m + C_1 L_1 L_4 \right) + s^2 \left( 2C_1 L_1 R_1 R_3 g_m + C_1 L_1 R_1 R_4 g_m + 2C_1 L_1 R_3 + C_1 L_1 R_4 + C_1 L_4 R_1 + 2C_4}$$

**10.940   INVALID-ORDER-940** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ R_3, \ \frac{R_4\left(C_4L_4s^2+1\right)}{C_4L_4s^2+C_4R_4s+1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1C_4L_1L_4R_1R_3R_4g_ms^4 + R_1R_3R_4g_m + s^2\left(C_1L_1R_1R_3R_4g_m + C_4L_4R_1R_3R_4g_m\right)}{2R_1R_3g_m + R_1R_4g_m + 2R_3 + R_4 + s^4\left(2C_1C_4L_1L_4R_1R_3g_m + C_1C_4L_1L_4R_1R_4g_m + 2C_1C_4L_1L_4R_3 + C_1C_4L_1L_4R_4\right) + s^3\left(2C_1C_4L_1R_1R_3R_4g_m + 2C_1C_4L_1R_3R_4 + 2C_1C_4L_4R_1R_3 + C_1C_4L_4R_1R_4\right) + s^2\left(2C_1C_4R_1R_3R_4 + 2C_1L_1R_1R_3g_m + C_1L_1R_1R_4g_m + 2C_1L_1\cdots\right)}$$

**10.941   INVALID-ORDER-941** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{1}{C_3s}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1L_1R_1R_4g_ms^2 + R_1R_4g_m}{2R_1g_m + s^3\left(C_1C_3L_1R_1R_4g_m + C_1C_3L_1R_4\right) + s^2\left(C_1C_3R_1R_4 + 2C_1L_1R_1g_m + 2C_1L_1\right) + s\left(2C_1R_1 + C_3R_1R_4g_m + C_3R_4\right) + 2}$$

**10.942   INVALID-ORDER-942** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{1}{C_3s}, \ \frac{1}{C_4s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1L_1R_1g_ms^2 + R_1g_m}{s^3\left(C_1C_3L_1R_1g_m + C_1C_3L_1 + 2C_1C_4L_1R_1g_m + 2C_1C_4L_1\right) + s^2\left(C_1C_3R_1 + 2C_1C_4R_1\right) + s\left(C_3R_1g_m + C_3 + 2C_4R_1g_m + 2C_4\right)}$$

**10.943   INVALID-ORDER-943** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{1}{C_3s}, \ \frac{R_4}{C_4R_4s+1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1L_1R_1R_4g_ms^2 + R_1R_4g_m}{2R_1g_m + s^3\left(C_1C_3L_1R_1R_4g_m + C_1C_3L_1R_4 + 2C_1C_4L_1R_1R_4g_m + 2C_1C_4L_1R_4\right) + s^2\left(C_1C_3R_1R_4 + 2C_1C_4R_1R_4 + 2C_1L_1R_1g_m + 2C_1L_1\right) + s\left(2C_1R_1 + C_3R_1R_4g_m + C_3R_4 + 2C_4R_1R_4g_m + 2C_4R_4\right) + 2}$$

**10.944   INVALID-ORDER-944** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{1}{C_3s}, \ R_4 + \frac{1}{C_4s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1C_4L_1R_1R_4g_ms^3 + C_1L_1R_1g_ms^2 + C_4R_1R_4g_ms + R_1g_m}{s^4\left(C_1C_3C_4L_1R_1R_4g_m + C_1C_3C_4L_1R_4\right) + s^3\left(C_1C_3C_4R_1R_4 + C_1C_3L_1R_1g_m + C_1C_3L_1 + 2C_1C_4L_1R_1g_m + 2C_1C_4L_1\right) + s^2\left(C_1C_3R_1 + 2C_1C_4R_1 + C_3C_4R_1R_4g_m + C_3C_4R_4\right) + s\left(C_3R_1g_m + C_3 + 2C_4R_1g_m + 2C_4\right)}$$

**10.945   INVALID-ORDER-945** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{1}{C_3s}, \ L_4s + \frac{1}{C_4s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1C_4L_1L_4R_1g_ms^4 + R_1g_m + s^2\left(C_1L_1R_1g_m + C_4L_4R_1g_m\right)}{C_1C_3C_4L_4R_1s^4 + s^5\left(C_1C_3C_4L_1L_4R_1g_m + C_1C_3C_4L_1L_4\right) + s^3\left(C_1C_3L_1R_1g_m + C_1C_3L_1 + 2C_1C_4L_1R_1g_m + 2C_1C_4L_1 + C_3C_4L_4R_1g_m + C_3C_4L_4\right) + s^2\left(C_1C_3R_1 + 2C_1C_4R_1\right) + s\left(C_3R_1g_m + C_3 + 2C_4R_1g_m + 2C_4\right)}$$

**10.946   INVALID-ORDER-946** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{1}{C_3s}, \ \frac{L_4s}{C_4L_4s^2+1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1L_1L_4R_1g_ms^3 + L_4R_1g_ms}{2C_1R_1s + 2R_1g_m + s^4\left(C_1C_3L_1L_4R_1g_m + C_1C_3L_1L_4 + 2C_1C_4L_1L_4R_1g_m + 2C_1C_4L_1L_4\right) + s^3\left(C_1C_3L_4R_1 + 2C_1C_4L_4R_1\right) + s^2\left(2C_1L_1R_1g_m + 2C_1L_1 + C_3L_4R_1g_m + C_3L_4 + 2C_4L_4R_1g_m + 2C_4L_4\right) + 2}$$

**10.947   INVALID-ORDER-947** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{1}{C_3s}, \ L_4s + R_4 + \frac{1}{C_4s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1C_4L_1L_4R_1g_ms^4 + C_1C_4L_1R_1R_4g_ms^3 + C_4R_1R_4g_ms + R_1g_m + s^2\left(C_1L_1R_1g_m + C_4L_4R_1g_m\right)}{s^5\left(C_1C_3C_4L_1L_4R_1g_m + C_1C_3C_4L_1L_4\right) + s^4\left(C_1C_3C_4L_1R_1R_4g_m + C_1C_3C_4L_1R_4 + C_1C_3C_4L_4R_1\right) + s^3\left(C_1C_3C_4R_1R_4 + C_1C_3L_1R_1g_m + C_1C_3L_1 + 2C_1C_4L_1R_1g_m + 2C_1C_4L_1 + C_3C_4L_4R_1g_m + C_3C_4L_4\right) + s^2\left(C_1C_3R_1 + 2C_1C_4R_1 + C_3C_4R_1R_4g_m + C_3C_4R_4\right) + \cdots}$$

**10.948   INVALID-ORDER-948** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{1}{C_3s}, \ \frac{L_4R_4s}{C_4L_4R_4s^2+L_4s+R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1L_1L_4R_1R_4g_ms^3 + L_4R_1R_4g_ms}{2R_1R_4g_m + 2R_4 + s^4\left(C_1C_3L_1L_4R_1R_4g_m + C_1C_3L_1L_4R_4 + 2C_1C_4L_1L_4R_1R_4g_m + 2C_1C_4L_1L_4R_4\right) + s^3\left(C_1C_3L_4R_1R_4 + 2C_1C_4L_4R_1R_4 + 2C_1L_1L_4R_1g_m + 2C_1L_1L_4\right) + s^2\left(2C_1L_1R_1R_4g_m + 2C_1L_1R_4 + 2C_1L_4R_1 + C_3L_4R_1R_4g_m + C_3L_4R_4 + 2C_4L_4R_1R_4g_m + \cdots\right)}$$

**10.949** **INVALID-ORDER-949** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{1}{C_3s}, \ \frac{C_4L_4R_4s^2+L_4s+R_4}{C_4L_4s^2+1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1C_4L_1L_4R_1R_4g_ms^4 + C_1L_1L_4R_1g_ms^3 + L_4R_1g_ms + R_1R_4g_m + s^2\left(C_1L_1R_1R_4g_m + C_4L_4R_1R_4g_m\right)}{2R_1g_m + s^5\left(C_1C_3C_4L_1L_4R_1R_4g_m + C_1C_3C_4L_1L_4R_4\right) + s^4\left(C_1C_3C_4L_4R_1R_4 + C_1C_3L_1L_4R_1g_m + C_1C_3L_1L_4 + 2C_1C_4L_1L_4R_1g_m + 2C_1C_4L_1L_4\right) + s^3\left(C_1C_3L_1R_1R_4g_m + C_1C_3L_1R_4 + C_1C_3L_4R_1 + 2C_1C_4L_4R_1 + C_3C_4L_4R_1R_4g_m + C_3C_4L_4R_4\right) + s^2\left(C_1C_3R_1R\ldots}$$

**10.950** **INVALID-ORDER-950** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{1}{C_3s}, \ \frac{R_4\left(C_4L_4s^2+1\right)}{C_4L_4s^2+C_4R_4s+1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1C_4L_1L_4R_1R_4g_ms^4 + R_1R_4g_m + s^2\left(C_1L_1R_1R_4g_m + C_4L_4R_1R_4g_m\right)}{2R_1g_m + s^5\left(C_1C_3C_4L_1L_4R_1R_4g_m + C_1C_3C_4L_1L_4R_4\right) + s^4\left(C_1C_3C_4L_4R_1R_4 + 2C_1C_4L_1L_4R_1g_m + 2C_1C_4L_1L_4\right) + s^3\left(C_1C_3L_1R_1R_4g_m + C_1C_3L_1R_4 + 2C_1C_4L_1R_1R_4g_m + 2C_1C_4L_1R_4 + 2C_1C_4L_4R_1 + C_3C_4L_4R_1R_4g_m + C_3C_4L_4R_4\right) + s^2\left(C_1C_3R_1R_4 + 2C_1C_4\ldots}$$

**10.951** **INVALID-ORDER-951** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{R_3}{C_3R_3s+1}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1L_1R_1R_3R_4g_ms^2 + R_1R_3R_4g_m}{2R_1R_3g_m + R_1R_4g_m + 2R_3 + R_4 + s^3\left(C_1C_3L_1R_1R_3R_4g_m + C_1C_3L_1R_3R_4\right) + s^2\left(C_1C_3R_1R_3R_4 + 2C_1L_1R_1R_3g_m + C_1L_1R_1R_4g_m + 2C_1L_1R_3 + C_1L_1R_4\right) + s\left(2C_1R_1R_3 + C_1R_1R_4 + C_3R_1R_3R_4g_m + C_3R_3R_4\right)}$$

**10.952** **INVALID-ORDER-952** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{R_3}{C_3R_3s+1}, \ \frac{1}{C_4s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1L_1R_1R_3g_ms^2 + R_1R_3g_m}{R_1g_m + s^3\left(C_1C_3L_1R_1R_3g_m + C_1C_3L_1R_3 + 2C_1C_4L_1R_1R_3g_m + 2C_1C_4L_1R_3\right) + s^2\left(C_1C_3R_1R_3 + 2C_1C_4R_1R_3 + C_1L_1R_1g_m + C_1L_1\right) + s\left(C_1R_1 + C_3R_1R_3g_m + C_3R_3 + 2C_4R_1R_3g_m + 2C_4R_3\right) + 1}$$

**10.953** **INVALID-ORDER-953** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{R_3}{C_3R_3s+1}, \ \frac{R_4}{C_4R_4s+1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1L_1R_1R_3R_4g_ms^2 + R_1R_3R_4g_m}{2R_1R_3g_m + R_1R_4g_m + 2R_3 + R_4 + s^3\left(C_1C_3L_1R_1R_3R_4g_m + C_1C_3L_1R_3R_4 + 2C_1C_4L_1R_1R_3R_4g_m + 2C_1C_4L_1R_3R_4\right) + s^2\left(C_1C_3R_1R_3R_4 + 2C_1C_4R_1R_3R_4 + 2C_1L_1R_1R_3g_m + C_1L_1R_1R_4g_m + 2C_1L_1R_3 + C_1L_1R_4\right) + s\left(2C_1R_1R_3 + C_1R_1R_4 + C_3R_1R_3R_4g_m + C\ldots}$$

**10.954** **INVALID-ORDER-954** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{R_3}{C_3R_3s+1}, \ R_4 + \frac{1}{C_4s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1C_4L_1R_1R_3R_4g_ms^3 + C_1L_1R_1R_3g_ms^2 + C_4R_1R_3R_4g_ms + R_1R_3g_m}{R_1g_m + s^4\left(C_1C_3C_4L_1R_1R_3R_4g_m + C_1C_3C_4L_1R_3R_4\right) + s^3\left(C_1C_3C_4R_1R_3R_4 + C_1C_3L_1R_1R_3g_m + C_1C_3L_1R_3 + 2C_1C_4L_1R_1R_3g_m + C_1C_4L_1R_1R_4g_m + 2C_1C_4L_1R_3 + C_1C_4L_1R_4\right) + s^2\left(C_1C_3R_1R_3 + 2C_1C_4R_1R_3 + C_1C_4R_1R_4 + C_1L_1R_1g_m + C_1L_1 + C_3C_4R_1R_3\ldots}$$

**10.955** **INVALID-ORDER-955** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{R_3}{C_3R_3s+1}, \ L_4s + \frac{1}{C_4s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1C_4L_1L_4R_1R_3g_ms^4 + R_1R_3g_m + s^2\left(C_1L_1R_1R_3g_m + C_4L_4R_1R_3g_m\right)}{R_1g_m + s^5\left(C_1C_3C_4L_1L_4R_1R_3g_m + C_1C_3C_4L_1L_4R_3\right) + s^4\left(C_1C_3C_4L_4R_1R_3 + C_1C_4L_1L_4R_1g_m + C_1C_4L_1L_4\right) + s^3\left(C_1C_3L_1R_1R_3g_m + C_1C_3L_1R_3 + 2C_1C_4L_1R_1R_3g_m + 2C_1C_4L_1R_3 + C_1C_4L_4R_1 + C_3C_4L_4R_1R_3g_m + C_3C_4L_4R_3\right) + s^2\left(C_1C_3R_1R_3 + 2C_1C_4R\ldots}$$

**10.956** **INVALID-ORDER-956** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{R_3}{C_3R_3s+1}, \ \frac{L_4s}{C_4L_4s^2+1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1L_1L_4R_1R_3g_ms^3 + L_4R_1R_3g_ms}{2R_1R_3g_m + 2R_3 + s^4\left(C_1C_3L_1L_4R_1R_3g_m + C_1C_3L_1L_4R_3 + 2C_1C_4L_1L_4R_1R_3g_m + 2C_1C_4L_1L_4R_3\right) + s^3\left(C_1C_3L_4R_1R_3 + 2C_1C_4L_4R_1R_3 + C_1L_1L_4R_1g_m + C_1L_1L_4\right) + s^2\left(2C_1L_1R_1R_3g_m + 2C_1L_1R_3 + C_1L_4R_1 + C_3L_4R_1R_3g_m + C_3L_4R_3 + 2C_4L_4R_1R_3g_m + 2C\ldots}$$

**10.957** **INVALID-ORDER-957** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{R_3}{C_3R_3s+1}, \ L_4s + R_4 + \frac{1}{C_4s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1C_4L_1L_4R_1R_3g_ms^4 + C_1C_4L_1R_1R_3R_4g_ms^3 + \ldots}{R_1g_m + s^5\left(C_1C_3C_4L_1L_4R_1R_3g_m + C_1C_3C_4L_1L_4R_3\right) + s^4\left(C_1C_3C_4L_1R_1R_3R_4g_m + C_1C_3C_4L_1R_3R_4 + C_1C_3C_4L_4R_1R_3 + C_1C_4L_1L_4R_1g_m + C_1C_4L_1L_4\right) + s^3\left(C_1C_3C_4R_1R_3R_4 + C_1C_3L_1R_1R_3g_m + C_1C_3L_1R_3 + 2C_1C_4L_1R_1R_3g_m + C_1C_4L_1R_1R_4g_m + 2C_1C_4L\ldots}$$

**10.958 INVALID-ORDER-958** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \; \infty, \; \frac{R_3}{C_3R_3s+1}, \; \frac{L_4R_4s}{C_4L_4R_4s^2+L_4s+R_4}, \; \infty, \; \infty \right)$

$H(s) = \dfrac{C_1L_1L_4R_1R_3R_4g_m s^3 + L_4R_1R_3R_4g_m s}{2R_1R_3R_4g_m + 2R_3R_4 + s^4\left(C_1C_3L_1L_4R_1R_3R_4g_m + C_1C_3L_1L_4R_3R_4 + 2C_1C_4L_1L_4R_1R_3R_4g_m + 2C_1C_4L_1L_4R_3R_4\right) + s^3\left(C_1C_3L_4R_1R_3R_4 + 2C_1C_4L_4R_1R_3R_4 + 2C_1L_1L_4R_1R_3g_m + C_1L_1L_4R_1R_4g_m + 2C_1L_1L_4R_3 + C_1L_1L_4R_4\right) + s^2\left(2C_1L_1R_1R_3R_4g_m + 2C_1L \cdots\right)}$

**10.959 INVALID-ORDER-959** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \; \infty, \; \frac{R_3}{C_3R_3s+1}, \; \frac{C_4L_4R_4s^2+L_4s+R_4}{C_4L_4s^2+1}, \; \infty, \; \infty \right)$

$H(s) = \dfrac{C\cdots}{2R_1R_3g_m + R_1R_4g_m + 2R_3 + R_4 + s^5\left(C_1C_3C_4L_1L_4R_1R_3R_4g_m + C_1C_3C_4L_1L_4R_3R_4\right) + s^4\left(C_1C_3C_4L_4R_1R_3R_4 + C_1C_3L_1L_4R_1R_3g_m + C_1C_3L_1L_4R_3 + 2C_1C_4L_1L_4R_1R_3g_m + C_1C_4L_1L_4R_1R_4g_m + 2C_1C_4L_1L_4R_3 + C_1C_4L_1L_4R_4\right) + s^3\left(C_1C_3L_1R_1R_3R_4g_m + C\cdots\right)}$

**10.960 INVALID-ORDER-960** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \; \infty, \; \frac{R_3}{C_3R_3s+1}, \; \frac{R_4\left(C_4L_4s^2+1\right)}{C_4L_4s^2+C_4R_4s+1}, \; \infty, \; \infty \right)$

$H(s) = \dfrac{C_1C_4L_1\cdots}{2R_1R_3g_m + R_1R_4g_m + 2R_3 + R_4 + s^5\left(C_1C_3C_4L_1L_4R_1R_3R_4g_m + C_1C_3C_4L_1L_4R_3R_4\right) + s^4\left(C_1C_3C_4L_4R_1R_3R_4 + 2C_1C_4L_1L_4R_1R_3g_m + C_1C_4L_1L_4R_1R_4g_m + 2C_1C_4L_1L_4R_3 + C_1C_4L_1L_4R_4\right) + s^3\left(C_1C_3L_1R_1R_3R_4g_m + C_1C_3L_1R_3R_4 + 2C_1C_4L_1R_1R_3R_4g_m + \cdots\right)}$

**10.961 INVALID-ORDER-961** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \; \infty, \; R_3 + \frac{1}{C_3s}, \; R_4, \; \infty, \; \infty \right)$

$H(s) = \dfrac{C_1C_3L_1R_1R_3R_4g_m s^3 + C_1L_1R_1R_4g_m s^2 + C_3R_1R_3R_4g_m s + R_1R_4g_m}{2R_1g_m + s^3\left(2C_1C_3L_1R_1R_3g_m + C_1C_3L_1R_1R_4g_m + 2C_1C_3L_1R_3 + C_1C_3L_1R_4\right) + s^2\left(2C_1C_3R_1R_3 + C_1C_3R_1R_4 + 2C_1L_1R_1g_m + 2C_1L_1\right) + s\left(2C_1R_1 + 2C_3R_1R_3g_m + C_3R_1R_4g_m + 2C_3R_3 + C_3R_4\right) + 2}$

**10.962 INVALID-ORDER-962** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \; \infty, \; R_3 + \frac{1}{C_3s}, \; \frac{1}{C_4s}, \; \infty, \; \infty \right)$

$H(s) = \dfrac{C_1C_3L_1R_1R_3g_m s^3 + C_1L_1R_1g_m s^2 + C_3R_1R_3g_m s + R_1g_m}{s^4\left(2C_1C_3C_4L_1R_1R_3g_m + 2C_1C_3C_4L_1R_3\right) + s^3\left(2C_1C_3C_4R_1R_3 + C_1C_3L_1R_1g_m + C_1C_3L_1 + 2C_1C_4L_1R_1g_m + 2C_1C_4L_1\right) + s^2\left(C_1C_3R_1 + 2C_1C_4R_1 + 2C_3C_4R_1R_3g_m + 2C_3C_4R_3\right) + s\left(C_3R_1g_m + C_3 + 2C_4R_1g_m + 2C_4\right)}$

**10.963 INVALID-ORDER-963** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \; \infty, \; R_3 + \frac{1}{C_3s}, \; \frac{R_4}{C_4R_4s+1}, \; \infty, \; \infty \right)$

$H(s) = \dfrac{C_1C_3L_1R_1R_3R_4g_m s^3 + C_1L_1R_1R_4g_m s^2 + C_3R_1R_3R_4g_m s + R_1R_4g_m}{2R_1g_m + s^4\left(2C_1C_3C_4L_1R_1R_3R_4g_m + 2C_1C_3C_4L_1R_3R_4\right) + s^3\left(2C_1C_3C_4R_1R_3R_4 + 2C_1C_3L_1R_1R_3g_m + C_1C_3L_1R_1R_4g_m + 2C_1C_3L_1R_3 + C_1C_3L_1R_4 + 2C_1C_4L_1R_1R_4g_m + 2C_1C_4L_1R_4\right) + s^2\left(2C_1C_3R_1R_3 + C_1C_3R_1R_4 + 2C_1C_4R_1R_4 + 2C_1L_1R_1g_m + 2C_1L_1 + \cdots\right)}$

**10.964 INVALID-ORDER-964** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \; \infty, \; R_3 + \frac{1}{C_3s}, \; R_4 + \frac{1}{C_4s}, \; \infty, \; \infty \right)$

$H(s) = \dfrac{C_1C_3C_4L_1R_1R_3R_4g_m s^4 + R_1g_m + s^3\left(C_1C_3L_1R_1R_3g_m + C_1C_4L_1R_1R_4g_m\right) + s^2\left(C_1L_1R_1g_m + C_3C_4R_1R_3R_4g_m\right) + s\left(C_3R_1R_3g_m + C_4R_1R_4g_m\right)}{s^4\left(2C_1C_3C_4L_1R_1R_3g_m + C_1C_3C_4L_1R_1R_4g_m + 2C_1C_3C_4L_1R_3 + C_1C_3C_4L_1R_4\right) + s^3\left(2C_1C_3C_4R_1R_3 + C_1C_3C_4R_1R_4 + C_1C_3L_1R_1g_m + C_1C_3L_1 + 2C_1C_4L_1R_1g_m + 2C_1C_4L_1\right) + s^2\left(C_1C_3R_1 + 2C_1C_4R_1 + 2C_3C_4R_1R_3g_m + C_3C_4R_1R_4g_m + 2C_3C_4R_3 + C_3C_4R_4 + \cdots\right)}$

**10.965 INVALID-ORDER-965** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \; \infty, \; R_3 + \frac{1}{C_3s}, \; L_4s + \frac{1}{C_4s}, \; \infty, \; \infty \right)$

$H(s) = \dfrac{C_1C_3C_4L_1L_4R_1R_3g_m s^5 + C_1C_4L_1L_4R_1g_m s^4 + C_3R_1R_3g_m s + R_1g_m + s^3\left(C_1C_3L_1R_1R_3g_m + C_3C_4L_4R_1R_3g_m\right) + s^2\left(C_1L_1R_1g_m + C_4L_4R_1g_m\right)}{s^5\left(C_1C_3C_4L_1L_4R_1g_m + C_1C_3C_4L_1L_4\right) + s^4\left(2C_1C_3C_4L_1R_1R_3g_m + 2C_1C_3C_4L_1R_3 + C_1C_3C_4L_4R_1\right) + s^3\left(2C_1C_3C_4R_1R_3 + C_1C_3L_1R_1g_m + C_1C_3L_1 + 2C_1C_4L_1R_1g_m + 2C_1C_4L_1 + C_3C_4L_4R_1g_m + C_3C_4L_4\right) + s^2\left(C_1C_3R_1 + 2C_1C_4R_1 + 2C_3C_4R_1R_3g_m + 2C_3C_\cdots\right)}$

**10.966 INVALID-ORDER-966** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \; \infty, \; R_3 + \frac{1}{C_3s}, \; \frac{L_4s}{C_4L_4s^2+1}, \; \infty, \; \infty \right)$

$H(s) = \dfrac{C_1C_3L_1L_4R_1R_3g_m s^4 + C_1L_1L_4R_1g_m s^3 + C_3L_4R_1R_3g_m s^2 + L_4R_1g_m s}{2R_1g_m + s^5\left(2C_1C_3C_4L_1L_4R_1R_3g_m + 2C_1C_3C_4L_1L_4R_3\right) + s^4\left(2C_1C_3C_4L_4R_1R_3 + C_1C_3L_1L_4R_1g_m + C_1C_3L_1L_4 + 2C_1C_4L_1L_4R_1g_m + 2C_1C_4L_1L_4\right) + s^3\left(2C_1C_3L_1R_1R_3g_m + 2C_1C_3L_1R_3 + C_1C_3L_4R_1 + 2C_1C_4L_4R_1 + 2C_3C_4L_4R_1R_3g_m + 2C_3C_4L_4R_3\right) + s^2\left(2C\cdots\right)}$

**10.967  INVALID-ORDER-967** $Z(s) = \left( \frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 C_4 L_1 L_4 R_1 R_3 g_m s^5 + R_1 g_m + s^4 \left(C_1 C_3 C_4 L_1 R_1 R_3 R_4 g_m + C_1 C_4 L_1 L_4 R_1 g_m\right) + s^3 \left(C_1 C_3 L_1 R_1 R_3 g_m + C_1 C_4 L_1 R_1 R_4 g_m + C_3 C_4 L_4 R_1 R_3 g_m\right) + s^2 \left(C_1 L_1 R_1 g_m + C_3 C_4 R_1 R_3 R_4 g_m\right.}{s^5 \left(C_1 C_3 C_4 L_1 L_4 R_1 g_m + C_1 C_3 C_4 L_1 L_4\right) + s^4 \left(2C_1 C_3 C_4 L_1 R_1 R_3 g_m + C_1 C_3 C_4 L_1 R_1 R_4 g_m + 2C_1 C_3 C_4 L_1 R_3 + C_1 C_3 C_4 L_1 R_4 + C_1 C_3 C_4 L_4 R_1\right) + s^3 \left(2C_1 C_3 C_4 R_1 R_3 + C_1 C_3 C_4 R_1 R_4 + C_1 C_3 L_1 R_1 g_m + C_1 C_3 L_1 + 2C_1 C_4 L_1 R_1 g_m + 2C_1 C_4 L_1 + C_3 C_4 L_4 R_1 g_m + C_3 C_4 L_4 \right.}$

**10.968  INVALID-ORDER-968** $Z(s) = \left( \frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$H(s) = \frac{}{2R_1 R_4 g_m + 2R_4 + s^5 \left(2C_1 C_3 C_4 L_1 L_4 R_1 R_3 R_4 g_m + 2C_1 C_3 C_4 L_1 L_4 R_3 R_4\right) + s^4 \left(2C_1 C_3 C_4 L_4 R_1 R_3 R_4 + 2C_1 C_3 L_1 L_4 R_1 R_3 g_m + C_1 C_3 L_1 L_4 R_1 R_4 g_m + 2C_1 C_3 L_1 L_4 R_3 + C_1 C_3 L_1 L_4 R_4 + 2C_1 C_4 L_1 L_4 R_1 R_4 g_m + 2C_1 C_4 L_1 L_4 R_4\right) + s^3 \left(2C_1 C_3 L_1 R_1 R_3 R_4 g_m + 2C_1 C_3 L_1 R_3\right.}$

**10.969  INVALID-ORDER-969** $Z(s) = \left( \frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 C_4 L_1 L_4 R_1 R_3 R_4 g_m s^5 + R_1 R_4 g_m + s^4 \left(C_1 C_3 L_1 L_4 R_1 R_3 g_m + C_1 C_4 L_1 L_4 R_1 R_4 g_m\right) + s^3 \left(C_1 C_3 L_1 R_1\right.}{2R_1 g_m + s^5 \left(2C_1 C_3 C_4 L_1 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_1 L_4 R_1 R_4 g_m + 2C_1 C_3 C_4 L_1 L_4 R_3 + C_1 C_3 C_4 L_1 L_4 R_4\right) + s^4 \left(2C_1 C_3 C_4 L_4 R_1 R_3 + C_1 C_3 C_4 L_4 R_1 R_4 + C_1 C_3 L_1 L_4 R_1 g_m + C_1 C_3 L_1 L_4 + 2C_1 C_4 L_1 L_4 R_1 g_m + 2C_1 C_4 L_1 L_4\right) + s^3 \left(2C_1 C_3 L_1 R_1 R_3 g_m + C_1 C_3 L_1 R_1 R_4 g_m + 2C_1\right.}$

**10.970  INVALID-ORDER-970** $Z(s) = \left( \frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ R_3 + \frac{1}{C_3 s}, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 C_4 L_1 L_4 R_1}{2R_1 g_m + s^5 \left(2C_1 C_3 C_4 L_1 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_1 L_4 R_1 R_4 g_m + 2C_1 C_3 C_4 L_1 L_4 R_3 + C_1 C_3 C_4 L_1 L_4 R_4\right) + s^4 \left(2C_1 C_3 C_4 L_1 R_1 R_3 R_4 g_m + 2C_1 C_3 C_4 L_1 R_3 R_4 + 2C_1 C_3 C_4 L_4 R_1 R_3 + C_1 C_3 C_4 L_4 R_1 R_4 + 2C_1 C_4 L_1 L_4 R_1 g_m + 2C_1 C_4 L_1 L_4\right) + s^3 \left(2C_1 C_3 C_4 R_1 R_3 R_4 + 2C_1 C_3 L_1\right.}$

**10.971  INVALID-ORDER-971** $Z(s) = \left( \frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ R_4, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 L_1 L_3 R_1 R_4 g_m s^4 + R_1 R_4 g_m + s^2 \left(C_1 L_1 R_1 R_4 g_m + C_3 L_3 R_1 R_4 g_m\right)}{2R_1 g_m + s^4 \left(2C_1 C_3 L_1 L_3 R_1 g_m + 2C_1 C_3 L_1 L_3\right) + s^3 \left(C_1 C_3 L_1 R_1 R_4 g_m + C_1 C_3 L_1 R_4 + 2C_1 C_3 L_3 R_1\right) + s^2 \left(C_1 C_3 R_1 R_4 + 2C_1 L_1 R_1 g_m + 2C_1 L_1 + 2C_3 L_3 R_1 g_m + 2C_3 L_3\right) + s \left(2C_1 R_1 + C_3 R_1 R_4 g_m + C_3 R_4\right) + 2}$

**10.972  INVALID-ORDER-972** $Z(s) = \left( \frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 L_1 L_3 R_1 g_m s^4 + R_1 g_m + s^2 \left(C_1 L_1 R_1 g_m + C_3 L_3 R_1 g_m\right)}{2C_1 C_3 C_4 L_3 R_1 s^4 + s^5 \left(2C_1 C_3 C_4 L_1 L_3 R_1 g_m + 2C_1 C_3 C_4 L_1 L_3\right) + s^3 \left(C_1 C_3 L_1 R_1 g_m + C_1 C_3 L_1 + 2C_1 C_4 L_1 R_1 g_m + 2C_1 C_4 L_1 + 2C_3 C_4 L_3 R_1 g_m + 2C_3 C_4 L_3\right) + s^2 \left(C_1 C_3 R_1 + 2C_1 C_4 R_1\right) + s \left(C_3 R_1 g_m + C_3 + 2C_4 R_1 g_m + 2C_4\right)}$

**10.973  INVALID-ORDER-973** $Z(s) = \left( \frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 L_1 L_3 R_1 R_4 g_m s^4 + R_1 R_4 g_m + s^2 \left(C_1 L_1 R_1 R_4 g_m + C_3 L_3 R_1 R_4 g_m\right)}{2R_1 g_m + s^5 \left(2C_1 C_3 C_4 L_1 L_3 R_1 R_4 g_m + 2C_1 C_3 C_4 L_1 L_3 R_4\right) + s^4 \left(2C_1 C_3 C_4 L_3 R_1 R_4 + 2C_1 C_3 L_1 L_3 R_1 g_m + 2C_1 C_3 L_1 L_3\right) + s^3 \left(C_1 C_3 L_1 R_1 R_4 g_m + C_1 C_3 L_1 R_4 + 2C_1 C_3 L_3 R_1 + 2C_1 C_4 L_1 R_1 R_4 g_m + 2C_1 C_4 L_1 R_4 + 2C_3 C_4 L_3 R_1 R_4 g_m + 2C_3 C_4 L_3 R_4\right) + s^2 \left(C_1 C_3 R_1 R_4 + 2\right.}$

**10.974  INVALID-ORDER-974** $Z(s) = \left( \frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 R_1 R_4 g_m s^5 + C_1 C_3 L_1 L_3 R_1 g_m s^4 + C_4 R_1 R_4 g_m s + R_1 g_m + s^3 \left(C_1 C_4 L_1 R_1 R_4 g_m + C_3 C_4 L_3 R_1 R_4 g_m\right) + s^2 \left(C_1 L_1 R_1 g_m + C_3 L_3 R_1 g_m\right)}{s^5 \left(2C_1 C_3 C_4 L_1 L_3 R_1 g_m + 2C_1 C_3 C_4 L_1 L_3\right) + s^4 \left(C_1 C_3 C_4 L_1 R_1 R_4 g_m + C_1 C_3 C_4 L_1 R_4 + 2C_1 C_3 C_4 L_3 R_1\right) + s^3 \left(C_1 C_3 C_4 R_1 R_4 + C_1 C_3 L_1 R_1 g_m + C_1 C_3 L_1 + 2C_1 C_4 L_1 R_1 g_m + 2C_1 C_4 L_1 + 2C_3 C_4 L_3 R_1 g_m + 2C_3 C_4 L_3\right) + s^2 \left(C_1 C_3 R_1 + 2C_1 C_4 R_1 + C_3 C_4 R_1 R_4 g_m + C_3 C\right.}$

**10.975  INVALID-ORDER-975** $Z(s) = \left( \frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ L_3 s + \frac{1}{C_3 s}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 R_1 g_m s^6 + R_1 g_m + s^4 \left(C_1 C_3 L_1 L_3 R_1 g_m + C_1 C_4 L_1 L_4 R_1 g_m + C_3 C_4 L_3 L_4 R_1 g_m\right) + s^2 \left(C_1 L_1 R_1 g_m + C_3 L_3 R_1 g_m + C_4 L_4 R_1 g_m\right)}{s^5 \left(2C_1 C_3 C_4 L_1 L_3 R_1 g_m + 2C_1 C_3 C_4 L_1 L_3 + C_1 C_3 C_4 L_1 L_4 R_1 g_m + C_1 C_3 C_4 L_1 L_4\right) + s^4 \left(2C_1 C_3 C_4 L_3 R_1 + C_1 C_3 C_4 L_4 R_1\right) + s^3 \left(C_1 C_3 L_1 R_1 g_m + C_1 C_3 L_1 + 2C_1 C_4 L_1 R_1 g_m + 2C_1 C_4 L_1 + 2C_3 C_4 L_3 R_1 g_m + 2C_3 C_4 L_3 + C_3 C_4 L_4 R_1 g_m + C_3 C_4 L_4\right) + s^2 \left(C_1 C_3 R_1 + 2C_1 C_4\right.}$

**10.976 INVALID-ORDER-976** $Z(s) = \left( \frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \; \infty, \; L_3 s + \frac{1}{C_3 s}, \; \frac{L_4 s}{C_4 L_4 s^2 + 1}, \; \infty, \; \infty \right)$

$$H(s) = \frac{C_1 C_3 L_1 L_3 L_4 R_1 g_m s^5 + L_4 R_1 g_m s + s^3 \left( C_1 L_1 L_4 R_1 g_m + C_3 L_3 L_4 R_1 g_m \right)}{2 C_1 C_3 C_4 L_3 L_4 R_1 s^5 + 2 C_1 R_1 s + 2 R_1 g_m + s^6 \left( 2 C_1 C_3 C_4 L_1 L_3 L_4 R_1 g_m + 2 C_1 C_3 C_4 L_1 L_3 L_4 \right) + s^4 \left( 2 C_1 C_3 L_1 L_3 R_1 g_m + 2 C_1 C_3 L_1 L_3 + C_1 C_3 L_1 L_4 R_1 g_m + C_1 C_3 L_1 L_4 + 2 C_1 C_4 L_1 L_4 R_1 g_m + 2 C_1 C_4 L_1 L_4 + 2 C_3 C_4 L_3 L_4 R_1 g_m + 2 C_3 C_4 L_3 L_4 \right) + s^3 \left( 2 C_1 C_3 L_3 R_1 + C_1 C_3 L_4 \cdots \right)}$$

**10.977 INVALID-ORDER-977** $Z(s) = \left( \frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \; \infty, \; L_3 s + \frac{1}{C_3 s}, \; L_4 s + R_4 + \frac{1}{C_4 s}, \; \infty, \; \infty \right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 R_1 g_m s^6 + C_1 C_3 C_4 L_1 L_3 R_1 R_4 g_m s^5 + C_4 R_1 R_4 g_m s + R_1 g_m + s^4 \left( C_1 C_3 L_1 L_3 R_1 g_m + C_1 C_4 L_1 L_4 R_1 g_m + C_3 C_4 L_3 L_4 R_1 g_m \right) + s^3 \left( C_1 C_4 L_1 R_1 R_4 g_m + C_3 C_4 L_3 R_1 R_4 g_m \right) \cdots}{s^5 \left( 2 C_1 C_3 C_4 L_1 L_3 R_1 g_m + 2 C_1 C_3 C_4 L_1 L_3 + C_1 C_3 C_4 L_1 L_4 R_1 g_m + C_1 C_3 C_4 L_1 L_4 \right) + s^4 \left( C_1 C_3 C_4 L_1 R_1 R_4 g_m + C_1 C_3 C_4 L_1 R_4 + 2 C_1 C_3 C_4 L_3 R_1 + C_1 C_3 C_4 L_4 R_1 \right) + s^3 \left( C_1 C_3 C_4 R_1 R_4 + C_1 C_3 L_1 R_1 g_m + C_1 C_3 L_1 + 2 C_1 C_4 L_1 R_1 g_m + 2 C_1 C_4 L_1 + 2 C_3 C_4 L_3 R_1 g_m + 2 C_3 C_4 \cdots \right)}$$

**10.978 INVALID-ORDER-978** $Z(s) = \left( \frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \; \infty, \; L_3 s + \frac{1}{C_3 s}, \; \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \; \infty, \; \infty \right)$

$$H(s) = \frac{\cdots}{2 R_1 R_4 g_m + 2 R_4 + s^6 \left( 2 C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_1 L_3 L_4 R_4 \right) + s^5 \left( 2 C_1 C_3 C_4 L_3 L_4 R_1 R_4 + 2 C_1 C_3 L_1 L_3 L_4 R_1 g_m + 2 C_1 C_3 L_1 L_3 L_4 \right) + s^4 \left( 2 C_1 C_3 L_1 L_3 R_1 R_4 g_m + 2 C_1 C_3 L_1 L_3 R_4 + C_1 C_3 L_1 L_4 R_1 R_4 g_m + 2 C_1 C_3 L_1 L_4 R_4 + 2 C_1 C_3 L_3 L_4 R_1 + 2 C_1 C_4 L_1 L_4 R_1 R_4 g_m \cdots \right)}$$

**10.979 INVALID-ORDER-979** $Z(s) = \left( \frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \; \infty, \; L_3 s + \frac{1}{C_3 s}, \; \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \; \infty, \; \infty \right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_4 g_m s^6 + C_1 C_3 L_1 L_3 L_4 R_1 g_m s^5 + L_4 R_1 g_m s + R_1 R_4 g_m + s^4 \left( C_1 C_3 L_1 L_3 R_1 R_4 g_m + \cdots \right)}{2 R_1 g_m + s^6 \left( 2 C_1 C_3 C_4 L_1 L_3 L_4 R_1 g_m + 2 C_1 C_3 C_4 L_1 L_3 L_4 \right) + s^5 \left( C_1 C_3 C_4 L_1 L_4 R_1 R_4 g_m + C_1 C_3 C_4 L_1 L_4 R_4 + 2 C_1 C_3 C_4 L_3 L_4 R_1 \right) + s^4 \left( C_1 C_3 C_4 L_4 R_1 R_4 + 2 C_1 C_3 L_1 L_3 R_1 g_m + 2 C_1 C_3 L_1 L_3 + C_1 C_3 L_1 L_4 R_1 g_m + C_1 C_3 L_1 L_4 + 2 C_1 C_4 L_1 L_4 R_1 g_m + 2 C_1 C_4 L_1 L_4 + 2 C_3 C_4 L_3 \cdots \right)}$$

**10.980 INVALID-ORDER-980** $Z(s) = \left( \frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \; \infty, \; L_3 s + \frac{1}{C_3 s}, \; \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \; \infty, \; \infty \right)$

$$H(s) = \frac{C_1 C_3 C_4 L_1 L \cdots}{2 R_1 g_m + s^6 \left( 2 C_1 C_3 C_4 L_1 L_3 L_4 R_1 g_m + 2 C_1 C_3 C_4 L_1 L_3 L_4 \right) + s^5 \left( 2 C_1 C_3 C_4 L_1 L_3 R_1 R_4 g_m + 2 C_1 C_3 C_4 L_1 L_3 R_4 + C_1 C_3 C_4 L_1 L_4 R_1 R_4 g_m + C_1 C_3 C_4 L_1 L_4 R_4 + 2 C_1 C_3 C_4 L_3 L_4 R_1 \right) + s^4 \left( 2 C_1 C_3 C_4 L_3 R_1 R_4 + C_1 C_3 C_4 L_4 R_1 R_4 + 2 C_1 C_3 L_1 L_3 R_1 g_m + 2 C_1 C_3 L_1 L_3 + 2 C_1 C_4 L_1 \cdots \right)}$$

**10.981 INVALID-ORDER-981** $Z(s) = \left( \frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \; \infty, \; \frac{L_3 s}{C_3 L_3 s^2 + 1}, \; R_4, \; \infty, \; \infty \right)$

$$H(s) = \frac{C_1 L_1 L_3 R_1 R_4 g_m s^3 + L_3 R_1 R_4 g_m s}{R_1 R_4 g_m + R_4 + s^4 \left( C_1 C_3 L_1 L_3 R_1 R_4 g_m + C_1 C_3 L_1 L_3 R_4 \right) + s^3 \left( C_1 C_3 L_3 R_1 R_4 + 2 C_1 L_1 L_3 R_1 g_m + 2 C_1 L_1 L_3 \right) + s^2 \left( C_1 L_1 R_1 R_4 g_m + C_1 L_1 R_4 + 2 C_1 L_3 R_1 + C_3 L_3 R_1 R_4 g_m + C_3 L_3 R_4 \right) + s \left( C_1 R_1 R_4 + 2 L_3 R_1 g_m + 2 L_3 \right)}$$

**10.982 INVALID-ORDER-982** $Z(s) = \left( \frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \; \infty, \; \frac{L_3 s}{C_3 L_3 s^2 + 1}, \; \frac{1}{C_4 s}, \; \infty, \; \infty \right)$

$$H(s) = \frac{C_1 L_1 L_3 R_1 g_m s^3 + L_3 R_1 g_m s}{C_1 R_1 s + R_1 g_m + s^4 \left( C_1 C_3 L_1 L_3 R_1 g_m + C_1 C_3 L_1 L_3 + 2 C_1 C_4 L_1 L_3 R_1 g_m + 2 C_1 C_4 L_1 L_3 \right) + s^3 \left( C_1 C_3 L_3 R_1 + 2 C_1 C_4 L_3 R_1 \right) + s^2 \left( C_1 L_1 R_1 g_m + C_1 L_1 + C_3 L_3 R_1 g_m + C_3 L_3 + 2 C_4 L_3 R_1 g_m + 2 C_4 L_3 \right) + 1}$$

**10.983 INVALID-ORDER-983** $Z(s) = \left( \frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \; \infty, \; \frac{L_3 s}{C_3 L_3 s^2 + 1}, \; \frac{R_4}{C_4 R_4 s + 1}, \; \infty, \; \infty \right)$

$$H(s) = \frac{C_1 L_1 L_3 R_1 R_4 g_m s^3 + L_3 R_1 R_4 g_m s}{R_1 R_4 g_m + R_4 + s^4 \left( C_1 C_3 L_1 L_3 R_1 R_4 g_m + C_1 C_3 L_1 L_3 R_4 + 2 C_1 C_4 L_1 L_3 R_1 R_4 g_m + 2 C_1 C_4 L_1 L_3 R_4 \right) + s^3 \left( C_1 C_3 L_3 R_1 R_4 + 2 C_1 C_4 L_3 R_1 R_4 + 2 C_1 L_1 L_3 R_1 g_m + 2 C_1 L_1 L_3 \right) + s^2 \left( C_1 L_1 R_1 R_4 g_m + C_1 L_1 R_4 + 2 C_1 L_3 R_1 + C_3 L_3 R_1 R_4 g_m + C_3 L_3 R_4 + 2 C_4 L_3 R_1 R_4 g_m + 2 C_4 \cdots \right)}$$

**10.984 INVALID-ORDER-984** $Z(s) = \left( \frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \; \infty, \; \frac{L_3 s}{C_3 L_3 s^2 + 1}, \; R_4 + \frac{1}{C_4 s}, \; \infty, \; \infty \right)$

$$H(s) = \frac{C_1 C_4 L_1 L_3 R_1 R_4 g_m s^4 + C_1 L_1 L_3 R_1 g_m s^3 + C_4 L_3 R_1 R_4 g_m s^2 + L_3 R_1 g_m s}{R_1 g_m + s^5 \left( C_1 C_3 C_4 L_1 L_3 R_1 R_4 g_m + C_1 C_3 C_4 L_1 L_3 R_4 \right) + s^4 \left( C_1 C_3 C_4 L_3 R_1 R_4 + C_1 C_3 L_1 L_3 R_1 g_m + C_1 C_3 L_1 L_3 + 2 C_1 C_4 L_1 L_3 R_1 g_m + 2 C_1 C_4 L_1 L_3 \right) + s^3 \left( C_1 C_3 L_3 R_1 + C_1 C_4 L_1 R_1 R_4 g_m + C_1 C_4 L_1 R_4 + 2 C_1 C_4 L_3 R_1 + C_3 C_4 L_3 R_1 R_4 g_m + C_3 C_4 L_3 R_4 \right) + s^2 \left( C_1 C_4 R_1 R_4 \cdots \right)}$$

**10.985  INVALID-ORDER-985** $Z(s) = \left( \frac{R_1(C_1L_1s^2+1)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{L_3s}{C_3L_3s^2+1}, \ L_4s + \frac{1}{C_4s}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1C_4L_1L_3L_4R_1g_ms^5 + L_3R_1g_ms + s^3(C_1L_1L_3R_1g_m + C_4L_3L_4R_1g_m)}{C_1C_3C_4L_3L_4R_1s^5 + C_1R_1s + R_1g_m + s^6(C_1C_3C_4L_1L_3L_4R_1g_m + C_1C_3C_4L_1L_3L_4) + s^4(C_1C_3L_1L_3R_1g_m + C_1C_3L_1L_3 + 2C_1C_4L_1L_3R_1g_m + 2C_1C_4L_1L_3 + C_1C_4L_1L_4R_1g_m + C_1C_4L_1L_4 + C_3C_4L_3L_4R_1g_m + C_3C_4L_3L_4) + s^3(C_1C_3L_3R_1 + 2C_1C_4L_3R_1 + C_1C_4\ldots}$

**10.986  INVALID-ORDER-986** $Z(s) = \left( \frac{R_1(C_1L_1s^2+1)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{L_3s}{C_3L_3s^2+1}, \ \frac{L_4s}{C_4L_4s^2+1}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1L_1L_3L_4R_1g_ms^3 + L_3L_4R_1g_ms}{2L_3R_1g_m + 2L_3 + L_4R_1g_m + L_4 + s^4(C_1C_3L_1L_3L_4R_1g_m + C_1C_3L_1L_3L_4 + 2C_1C_4L_1L_3L_4R_1g_m + 2C_1C_4L_1L_3L_4) + s^3(C_1C_3L_3L_4R_1 + 2C_1C_4L_3L_4R_1) + s^2(2C_1L_1L_3R_1g_m + 2C_1L_1L_3 + C_1L_1L_4R_1g_m + C_1L_1L_4 + C_3L_3L_4R_1g_m + C_3L_3L_4 + 2C_4L_3L_4R_1g_m + \ldots}$

**10.987  INVALID-ORDER-987** $Z(s) = \left( \frac{R_1(C_1L_1s^2+1)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{L_3s}{C_3L_3s^2+1}, \ L_4s + R_4 + \frac{1}{C_4s}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1C_4L_1L_3L_4R_1g_ms^5 + C_1C_4L_1L_3R_1R_4g_ms^4 + C\ldots}{R_1g_m + s^6(C_1C_3C_4L_1L_3L_4R_1g_m + C_1C_3C_4L_1L_3L_4) + s^5(C_1C_3C_4L_1L_3R_1R_4g_m + C_1C_3C_4L_1L_3R_4 + C_1C_3C_4L_3L_4R_1) + s^4(C_1C_3C_4L_3R_1R_4 + C_1C_3L_1L_3R_1g_m + C_1C_3L_1L_3 + 2C_1C_4L_1L_3R_1g_m + 2C_1C_4L_1L_3 + C_1C_4L_1L_4R_1g_m + C_1C_4L_1L_4 + C_3C_4L_3L_4R_1g\ldots}$

**10.988  INVALID-ORDER-988** $Z(s) = \left( \frac{R_1(C_1L_1s^2+1)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{L_3s}{C_3L_3s^2+1}, \ \frac{L_4R_4s}{C_4L_4R_4s^2+L_4s+R_4}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1L_1L_3L_4R_1R_4g_ms^3 + L_3L_4R_1R_4g_ms}{2L_3R_1R_4g_m + 2L_3R_4 + L_4R_1R_4g_m + L_4R_4 + s^4(C_1C_3L_1L_3L_4R_1R_4g_m + C_1C_3L_1L_3L_4R_4 + 2C_1C_4L_1L_3L_4R_1R_4g_m + 2C_1C_4L_1L_3L_4R_4) + s^3(C_1C_3L_3L_4R_1R_4 + 2C_1C_4L_3L_4R_1R_4 + 2C_1L_1L_3L_4R_1g_m + 2C_1L_1L_3L_4) + s^2(2C_1L_1L_3R_1R_4g_m + 2C_1L_1L_3R_4 + C_1\ldots}$

**10.989  INVALID-ORDER-989** $Z(s) = \left( \frac{R_1(C_1L_1s^2+1)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{L_3s}{C_3L_3s^2+1}, \ \frac{C_4L_4R_4s^2+L_4s+R_4}{C_4L_4s^2+1}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1\ldots}{R_1R_4g_m + R_4 + s^6(C_1C_3C_4L_1L_3L_4R_1R_4g_m + C_1C_3C_4L_1L_3L_4R_4) + s^5(C_1C_3C_4L_3L_4R_1R_4 + C_1C_3L_1L_3L_4R_1g_m + C_1C_3L_1L_3L_4 + 2C_1C_4L_1L_3L_4R_1g_m + 2C_1C_4L_1L_3L_4) + s^4(C_1C_3L_1L_3R_1R_4g_m + C_1C_3L_1L_3R_4 + C_1C_3L_3L_4R_1 + C_1C_4L_1L_4R_1R_4g_m + C_1C_4L\ldots}$

**10.990  INVALID-ORDER-990** $Z(s) = \left( \frac{R_1(C_1L_1s^2+1)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{L_3s}{C_3L_3s^2+1}, \ \frac{R_4(C_4L_4s^2+1)}{C_4L_4s^2+C_4R_4s+1}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1C_4L_1\ldots}{R_1R_4g_m + R_4 + s^6(C_1C_3C_4L_1L_3L_4R_1R_4g_m + C_1C_3C_4L_1L_3L_4R_4) + s^5(C_1C_3C_4L_3L_4R_1R_4 + 2C_1C_4L_1L_3L_4R_1g_m + 2C_1C_4L_1L_3L_4) + s^4(C_1C_3L_1L_3R_1R_4g_m + C_1C_3L_1L_3R_4 + 2C_1C_4L_1L_3R_1R_4g_m + 2C_1C_4L_1L_3R_4 + C_1C_4L_1L_4R_1R_4g_m + C_1C_4L_1L_4R_4 + 2C_1\ldots}$

**10.991  INVALID-ORDER-991** $Z(s) = \left( \frac{R_1(C_1L_1s^2+1)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ L_3s + R_3 + \frac{1}{C_3s}, \ R_4, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1C_3L_1L_3R_1R_4g_ms^4 + C_1C_3L_1R_1R_3R_4g_ms^3 + C_3R_1R_3R_4g_ms + R_1R_4g_m + s^2(C_1L_1R_1R_4g_m + C_3L_3R_1R_4g_m)}{2R_1g_m + s^4(2C_1C_3L_1L_3R_1g_m + 2C_1C_3L_1L_3) + s^3(2C_1C_3L_1R_1R_3g_m + C_1C_3L_1R_1R_4g_m + 2C_1C_3L_1R_3 + C_1C_3L_1R_4 + 2C_1C_3L_3R_1) + s^2(2C_1C_3R_1R_3 + C_1C_3R_1R_4 + 2C_1L_1R_1g_m + 2C_1L_1 + 2C_3L_3R_1g_m + 2C_3L_3) + s(2C_1R_1 + 2C_3R_1R_3g_m + C_3R_1R_4g_m + 2\ldots}$

**10.992  INVALID-ORDER-992** $Z(s) = \left( \frac{R_1(C_1L_1s^2+1)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ L_3s + R_3 + \frac{1}{C_3s}, \ \frac{1}{C_4s}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1C_3L_1L_3R_1g_ms^4 + C_1C_3L_1R_1R_3g_ms^3 + C_3R_1R_3g_ms + R_1g_m + s^2(C_1L_1R_1g_m + C_3L_3R_1g_m)}{s^5(2C_1C_3C_4L_1L_3R_1g_m + 2C_1C_3C_4L_1L_3) + s^4(2C_1C_3C_4L_1R_1R_3g_m + 2C_1C_3C_4L_1R_3 + 2C_1C_3C_4L_3R_1) + s^3(2C_1C_3C_4R_1R_3 + C_1C_3L_1R_1g_m + C_1C_3L_1 + 2C_1C_4L_1R_1g_m + 2C_1C_4L_1 + 2C_3C_4L_3R_1g_m + 2C_3C_4L_3) + s^2(C_1C_3R_1 + 2C_1C_4R_1 + 2C_3C_4R_1R_3g_m + \ldots}$

**10.993  INVALID-ORDER-993** $Z(s) = \left( \frac{R_1(C_1L_1s^2+1)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ L_3s + R_3 + \frac{1}{C_3s}, \ \frac{R_4}{C_4R_4s+1}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1C_3L_1L_3R_1R_4g_ms^4 + C_1C_3L_1R_1\ldots}{2R_1g_m + s^5(2C_1C_3C_4L_1L_3R_1R_4g_m + 2C_1C_3C_4L_1L_3R_4) + s^4(2C_1C_3C_4L_1R_1R_3R_4g_m + 2C_1C_3C_4L_1R_3R_4 + 2C_1C_3C_4L_3R_1R_4 + 2C_1C_3L_1L_3R_1g_m + 2C_1C_3L_1L_3) + s^3(2C_1C_3C_4R_1R_3R_4 + 2C_1C_3L_1R_1R_3g_m + C_1C_3L_1R_1R_4g_m + 2C_1C_3L_1R_3 + C_1C_3L_1R_4 + 2C\ldots}$

**10.994   INVALID-ORDER-994** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ L_3s+R_3+\frac{1}{C_3s}, \ R_4+\frac{1}{C_4s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1C_3C_4L_1L_3R_1R_4g_ms^5 + R_1g_m + s^4\left(C_1C_3C_4L_1R_1R_3R_4g_m + C_1C_3L_1L_3R_1g_m\right) + s^3\left(C_1C_3L_1R_1R_3g_m + C_1C_4L_1R_1R_4g_m + C_3C_4L_3R_1R_4g_m\right) + s^2\left(C_1L_1R_1g_m + C_3C_4R_1R_3R_4\dots}{s^5\left(2C_1C_3C_4L_1L_3R_1g_m + 2C_1C_3C_4L_1L_3\right) + s^4\left(2C_1C_3C_4L_1R_1R_3g_m + C_1C_3C_4L_1R_1R_4g_m + 2C_1C_3C_4L_1R_3 + C_1C_3C_4L_1R_4 + 2C_1C_3C_4L_3R_1\right) + s^3\left(2C_1C_3C_4R_1R_3 + C_1C_3C_4R_1R_4 + C_1C_3L_1R_1g_m + C_1C_3L_1 + 2C_1C_4L_1R_1g_m + 2C_1C_4L_1 + 2C_3C_4L_3R_1g_m + 2C\dots}$

**10.995   INVALID-ORDER-995** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ L_3s+R_3+\frac{1}{C_3s}, \ L_4s+\frac{1}{C_4s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1C_3C_4L_1L_3L_4R_1g_ms^6 + C_1C_3C_4L_1L_4R_1R_3g_ms^5 + C_3R_1R_3g_ms + R_1g_m + s^4\left(C_1C_3L_1L_3R_1g_m + C_1C_4L_1L_4R_1g_m + C_3C_4L_3L_4R_1g_m\right) + s^3\left(C_1C_3L_1R_1R_3g_m + C_3C_4L_4R_1R_3g_m\dots}{s^5\left(2C_1C_3C_4L_1L_3R_1g_m + 2C_1C_3C_4L_1L_3 + C_1C_3C_4L_1L_4R_1g_m + C_1C_3C_4L_1L_4\right) + s^4\left(2C_1C_3C_4L_1R_1R_3g_m + 2C_1C_3C_4L_1R_3 + 2C_1C_3C_4L_3R_1 + C_1C_3C_4L_4R_1\right) + s^3\left(2C_1C_3C_4R_1R_3 + C_1C_3L_1R_1g_m + C_1C_3L_1 + 2C_1C_4L_1R_1g_m + 2C_1C_4L_1 + 2C_3C_4L_3R_1g_m + 2C\dots}$

**10.996   INVALID-ORDER-996** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ L_3s+R_3+\frac{1}{C_3s}, \ \frac{L_4s}{C_4L_4s^2+1}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1C_3L_1L_3L_4R_1g_ms^5 + C_1C_3L_1L_4R_1\dots}{2R_1g_m + s^6\left(2C_1C_3C_4L_1L_3L_4R_1g_m + 2C_1C_3C_4L_1L_3L_4\right) + s^5\left(2C_1C_3C_4L_1L_4R_1R_3g_m + 2C_1C_3C_4L_1L_4R_3 + 2C_1C_3C_4L_3L_4R_1\right) + s^4\left(2C_1C_3C_4L_4R_1R_3 + 2C_1C_3L_1L_3R_1g_m + 2C_1C_3L_1L_3 + C_1C_3L_1L_4R_1g_m + C_1C_3L_1L_4 + 2C_1C_4L_1L_4R_1g_m + 2C_1C_4L_1L_4 + 2C_3\dots}$

**10.997   INVALID-ORDER-997** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ L_3s+R_3+\frac{1}{C_3s}, \ L_4s+R_4+\frac{1}{C_4s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1C_3C_4L_1L_3L_4R_1g_ms^6 + R_1g_m + s^5\left(C_1C_3C_4L_1L_3R_1R_4g_m + C_1C_3C_4L_1L_4R_1R_3g_m\right) + s^4\left(C_1C_3C_4L_1R_1R_3R_4g_m + C_1C_3L_1L_3R_1g_m + C_1C_4L_1L_4R_1g_m + C_3C_4L_3L_4R_1g_m\right) + s^3\left(C_1C_3L_1R_1R_3g_m + C\dots}{s^5\left(2C_1C_3C_4L_1L_3R_1g_m + 2C_1C_3C_4L_1L_3 + C_1C_3C_4L_1L_4R_1g_m + C_1C_3C_4L_1L_4\right) + s^4\left(2C_1C_3C_4L_1R_1R_3g_m + C_1C_3C_4L_1R_1R_4g_m + 2C_1C_3C_4L_1R_3 + C_1C_3C_4L_1R_4 + 2C_1C_3C_4L_3R_1 + C_1C_3C_4L_4R_1\right) + s^3\left(2C_1C_3C_4R_1R_3 + C_1C_3C_4R_1R_4 + C_1C_3L_1R_1g_m + C_1C_3L_1\dots}$

**10.998   INVALID-ORDER-998** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ L_3s+R_3+\frac{1}{C_3s}, \ \frac{L_4R_4s}{C_4L_4R_4s^2+L_4s+R_4}, \ \infty, \ \infty \right)$

$H(s) = \frac{\dots}{2R_1R_4g_m + 2R_4 + s^6\left(2C_1C_3C_4L_1L_3L_4R_1R_4g_m + 2C_1C_3C_4L_1L_3L_4R_4\right) + s^5\left(2C_1C_3C_4L_1L_4R_1R_3R_4g_m + 2C_1C_3C_4L_1L_4R_3R_4 + 2C_1C_3C_4L_3L_4R_1R_4 + 2C_1C_3L_1L_3L_4R_1g_m + 2C_1C_3L_1L_3L_4\right) + s^4\left(2C_1C_3C_4L_4R_1R_3R_4 + 2C_1C_3L_1L_3R_1R_4g_m + 2C_1C_3L_1L_3R_4 +\dots}$

**10.999   INVALID-ORDER-999** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ L_3s+R_3+\frac{1}{C_3s}, \ \frac{C_4L_4R_4s^2+L_4s+R_4}{C_4L_4s^2+1}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1C_3C_4L_1L_3L_4R_1R_4g_ms^6 + R_1R_4g_m + s^5\left(C_1C_3C_4L_1L_4R_1R_3R_4g_m + C_1C_3L_1\dots\right)\dots}{2R_1g_m + s^6\left(2C_1C_3C_4L_1L_3L_4R_1g_m + 2C_1C_3C_4L_1L_3L_4\right) + s^5\left(2C_1C_3C_4L_1L_4R_1R_3g_m + C_1C_3C_4L_1L_4R_1R_4g_m + 2C_1C_3C_4L_1L_4R_3 + C_1C_3C_4L_1L_4R_4 + 2C_1C_3C_4L_3L_4R_1\right) + s^4\left(2C_1C_3C_4L_4R_1R_3 + C_1C_3C_4L_4R_1R_4 + 2C_1C_3L_1L_3R_1g_m + 2C_1C_3L_1L_3 + C_1C_3L_1\dots}$

**10.1000   INVALID-ORDER-1000** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ L_3s+R_3+\frac{1}{C_3s}, \ \frac{R_4\left(C_4L_4s^2+1\right)}{C_4L_4s^2+C_4R_4s+1}, \ \infty, \ \infty \right)$

$H(s) = \frac{\dots}{2R_1g_m + s^6\left(2C_1C_3C_4L_1L_3L_4R_1g_m + 2C_1C_3C_4L_1L_3L_4\right) + s^5\left(2C_1C_3C_4L_1L_3R_1R_4g_m + 2C_1C_3C_4L_1L_3R_4 + 2C_1C_3C_4L_1L_4R_1R_3g_m + C_1C_3C_4L_1L_4R_1R_4g_m + 2C_1C_3C_4L_1L_4R_3 + C_1C_3C_4L_1L_4R_4 + 2C_1C_3C_4L_3L_4R_1\right) + s^4\left(2C_1C_3C_4L_1R_1R_3R_4g_m + 2C_1C_3C_4\dots}$

**10.1001   INVALID-ORDER-1001** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{L_3R_3s}{C_3L_3R_3s^2+L_3s+R_3}, \ R_4, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1L_1L_3R_1R_3R_4g_ms^3 + L_3R_1R_3R_4g_ms}{R_1R_3R_4g_m + R_3R_4 + s^4\left(C_1C_3L_1L_3R_1R_3R_4g_m + C_1C_3L_1L_3R_3R_4\right) + s^3\left(C_1C_3L_3R_1R_3R_4 + 2C_1L_1L_3R_1R_3g_m + C_1L_1L_3R_1R_4g_m + 2C_1L_1L_3R_3 + C_1L_1L_3R_4\right) + s^2\left(C_1L_1R_1R_3R_4g_m + C_1L_1R_3R_4 + 2C_1L_3R_1R_3 + C_1L_3R_1R_4 + C_3L_3R_1R_3R_4g_m + C_3L_3R_3R_4\right) +\dots}$

**10.1002   INVALID-ORDER-1002** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{L_3R_3s}{C_3L_3R_3s^2+L_3s+R_3}, \ \frac{1}{C_4s}, \ \infty, \ \infty \right)$

$H(s) = \frac{C_1L_1L_3R_1R_3g_ms^3 + L_3R_1R_3g_ms}{R_1R_3g_m + R_3 + s^4\left(C_1C_3L_1L_3R_1R_3g_m + C_1C_3L_1L_3R_3 + 2C_1C_4L_1L_3R_1R_3g_m + 2C_1C_4L_1L_3R_3\right) + s^3\left(C_1C_3L_3R_1R_3 + 2C_1C_4L_3R_1R_3 + C_1L_1L_3R_1g_m + C_1L_1L_3\right) + s^2\left(C_1L_1R_1R_3g_m + C_1L_1R_3 + C_1L_3R_1 + C_3L_3R_1R_3g_m + C_3L_3R_3 + 2C_4L_3R_1R_3g_m + 2C_4L_3R\dots}$

**10.1003 INVALID-ORDER-1003** $Z(s) = \left( \frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{R_4}{C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 L_1 L_3 R_1 R_3 R_4 g_m s^3 + L_3 R_1 R_3 R_4 g_m s}{R_1 R_3 R_4 g_m + R_3 R_4 + s^4 \left(C_1 C_3 L_1 L_3 R_1 R_3 R_4 g_m + C_1 C_3 L_1 L_3 R_3 R_4 + 2C_1 C_4 L_1 L_3 R_1 R_3 R_4 g_m + 2C_1 C_4 L_1 L_3 R_3 R_4\right) + s^3 \left(C_1 C_3 L_3 R_1 R_3 R_4 + 2C_1 C_4 L_3 R_1 R_3 R_4 + 2C_1 L_1 L_3 R_1 R_3 g_m + C_1 L_1 L_3 R_1 R_4 g_m + 2C_1 L_1 L_3 R_3 + C_1 L_1 L_3 R_4\right) + s^2 \left(C_1 L_1 R_1 R_3 R_4 g_m + C_1 L_1 R_3 \ldots\right)}$$

**10.1004 INVALID-ORDER-1004** $Z(s) = \left( \frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_4 L_1 L_3 R_1 R_3 \ldots}{R_1 R_3 g_m + R_3 + s^5 \left(C_1 C_3 C_4 L_1 L_3 R_1 R_3 R_4 g_m + C_1 C_3 C_4 L_1 L_3 R_3 R_4\right) + s^4 \left(C_1 C_3 C_4 L_3 R_1 R_3 R_4 + C_1 C_3 L_1 L_3 R_1 R_3 g_m + C_1 C_3 L_1 L_3 R_3 + 2C_1 C_4 L_1 L_3 R_1 R_3 g_m + C_1 C_4 L_1 L_3 R_1 R_4 g_m + 2C_1 C_4 L_1 L_3 R_3 + C_1 C_4 L_1 L_3 R_4\right) + s^3 \left(C_1 C_3 L_3 R_1 R_3 + C_1 C_4 L_1 R_1 R_3 R_4 g_m + C_1 C_2 \ldots\right)}$$

**10.1005 INVALID-ORDER-1005** $Z(s) = \left( \frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ L_4 s + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_4 L_1 L_3 L_4 \ldots}{R_1 R_3 g_m + R_3 + s^6 \left(C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_1 L_3 L_4 R_3\right) + s^5 \left(C_1 C_3 C_4 L_3 L_4 R_1 R_3 + C_1 C_4 L_1 L_3 L_4 R_1 g_m + C_1 C_4 L_1 L_3 L_4\right) + s^4 \left(C_1 C_3 L_1 L_3 R_1 R_3 g_m + C_1 C_3 L_1 L_3 R_3 + 2C_1 C_4 L_1 L_3 R_1 R_3 g_m + 2C_1 C_4 L_1 L_3 R_3 + C_1 C_4 L_1 L_4 R_1 R_3 g_m + C_1 C_4 \ldots\right)}$$

**10.1006 INVALID-ORDER-1006** $Z(s) = \left( \frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{L_4 s}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 L_1 L_3 L_4 R_1 R_3 g_m s^3 + L_3 L_4 R_1 R_3 g_m s}{2L_3 R_1 R_3 g_m + 2L_3 R_3 + L_4 R_1 R_3 g_m + L_4 R_3 + s^4 \left(C_1 C_3 L_1 L_3 L_4 R_1 R_3 g_m + C_1 C_3 L_1 L_3 L_4 R_3 + 2C_1 C_4 L_1 L_3 L_4 R_1 R_3 g_m + 2C_1 C_4 L_1 L_3 L_4 R_3\right) + s^3 \left(C_1 C_3 L_3 L_4 R_1 R_3 + 2C_1 C_4 L_3 L_4 R_1 R_3 + C_1 L_1 L_3 L_4 R_1 g_m + C_1 L_1 L_3 L_4\right) + s^2 \left(2C_1 L_1 L_3 R_1 R_3 g_m + 2C_1 L_1 L_3 R_3 + C_1 L_1 \ldots\right)}$$

**10.1007 INVALID-ORDER-1007** $Z(s) = \left( \frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ L_4 s + R_4 + \frac{1}{C_4 s}, \ \infty, \ \infty \right)$

$$H(s) = \frac{\ldots}{R_1 R_3 g_m + R_3 + s^6 \left(C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_1 L_3 L_4 R_3\right) + s^5 \left(C_1 C_3 C_4 L_1 L_3 R_1 R_3 R_4 g_m + C_1 C_3 C_4 L_1 L_3 R_3 R_4 + C_1 C_3 C_4 L_3 L_4 R_1 R_3 + C_1 C_4 L_1 L_3 L_4 R_1 g_m + C_1 C_4 L_1 L_3 L_4\right) + s^4 \left(C_1 C_3 C_4 L_3 R_1 R_3 R_4 + C_1 C_3 L_1 L_3 R_1 R_3 g_m + C_1 C_3 L_1 L_3 R_3 + 2C_1 C_4 L_1 L_3 R_1 \ldots\right)}$$

**10.1008 INVALID-ORDER-1008** $Z(s) = \left( \frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{L_4 R_4 s}{C_4 L_4 R_4 s^2 + L_4 s + R_4}, \ \infty, \ \infty \right)$

$$H(s) = \frac{\ldots}{2L_3 R_1 R_3 R_4 g_m + 2L_3 R_3 R_4 + L_4 R_1 R_3 R_4 g_m + L_4 R_3 R_4 + s^4 \left(C_1 C_3 L_1 L_3 L_4 R_1 R_3 R_4 g_m + C_1 C_3 L_1 L_3 L_4 R_3 R_4 + 2C_1 C_4 L_1 L_3 L_4 R_1 R_3 R_4 g_m + 2C_1 C_4 L_1 L_3 L_4 R_3 R_4\right) + s^3 \left(C_1 C_3 L_3 L_4 R_1 R_3 R_4 + 2C_1 C_4 L_3 L_4 R_1 R_3 R_4 + 2C_1 L_1 L_3 L_4 R_1 R_3 g_m + C_1 L_1 L_3 L_4 R_1 R_4 g_m + 2C_1 \ldots\right)}$$

**10.1009 INVALID-ORDER-1009** $Z(s) = \left( \frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{C_4 L_4 R_4 s^2 + L_4 s + R_4}{C_4 L_4 s^2 + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{\ldots}{R_1 R_3 R_4 g_m + R_3 R_4 + s^6 \left(C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_3 R_4 g_m + C_1 C_3 C_4 L_1 L_3 L_4 R_3 R_4\right) + s^5 \left(C_1 C_3 C_4 L_3 L_4 R_1 R_3 R_4 + C_1 C_3 L_1 L_3 L_4 R_1 R_3 g_m + C_1 C_3 L_1 L_3 L_4 R_3 + 2C_1 C_4 L_1 L_3 L_4 R_1 R_3 g_m + C_1 C_4 L_1 L_3 L_4 R_1 R_4 g_m + 2C_1 C_4 L_1 L_3 L_4 R_3 + C_1 C_4 L_1 L_3 L_4 R_4\right) + s^4 \left(C_1 C_3 L_1 L_3 R_1 \ldots\right)}$$

**10.1010 INVALID-ORDER-1010** $Z(s) = \left( \frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}, \ \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \ \infty, \ \infty \right)$

$$H(s) = \frac{\ldots}{R_1 R_3 R_4 g_m + R_3 R_4 + s^6 \left(C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_3 R_4 g_m + C_1 C_3 C_4 L_1 L_3 L_4 R_3 R_4\right) + s^5 \left(C_1 C_3 C_4 L_3 L_4 R_1 R_3 R_4 + 2C_1 C_4 L_1 L_3 L_4 R_1 R_3 g_m + C_1 C_4 L_1 L_3 L_4 R_1 R_4 g_m + 2C_1 C_4 L_1 L_3 L_4 R_3 + C_1 C_4 L_1 L_3 L_4 R_4\right) + s^4 \left(C_1 C_3 L_1 L_3 R_1 R_3 R_4 g_m + C_1 C_3 L_1 L_3 R_3 R_4 + 2C_1 C_4 L_1 L_3 R_1 \ldots\right)}$$

**10.1011 INVALID-ORDER-1011** $Z(s) = \left( \frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \ \infty, \ \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}, \ R_4, \ \infty, \ \infty \right)$

$$H(s) = \frac{C_1 C_3 L_1 L_3 R_1 R_3 R_4 g_m s^4 + C_1 L_1 L_3 R_1 R_4 g_m s^3 + L_3 R_1 R_4 g_m s + R_1 R_3 R_4 g_m + s^2 \left(C_1 L_1 R_1 R_3 R_4 g_m + C_3 L_3 R_1 R_3 R_4 g_m\right)}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4 + s^4 \left(2C_1 C_3 L_1 L_3 R_1 R_3 g_m + C_1 C_3 L_1 L_3 R_1 R_4 g_m + 2C_1 C_3 L_1 L_3 R_3 + C_1 C_3 L_1 L_3 R_4\right) + s^3 \left(2C_1 C_3 L_3 R_1 R_3 + C_1 C_3 L_3 R_1 R_4 + 2C_1 L_1 L_3 R_1 g_m + 2C_1 L_1 L_3\right) + s^2 \left(2C_1 L_1 R_1 R_3 g_m + C_1 L_1 R_1 R_4 g_m + 2C_1 L_1 R_3 + C_1 L_1 R_4 + 2C_1 L_3 R_1 + \ldots\right)}$$

**10.1012 INVALID-ORDER-1012** $Z(s) = \left( \frac{R_1(C_1L_1s^2+1)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{C_3L_3R_3s^2+L_3s+R_3}{C_3L_3s^2+1}, \ \frac{1}{C_4s}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1C_3L_1L_3R_1R_3g_ms^4 + C_1L_1L_3R_1g_ms^3 + L_3R_1g_ms + R_1R_3g_m + s^2(C_1L_1R_1R_3g_m + C_3L_3R_1R_3g_m)}{R_1g_m + s^5(2C_1C_3C_4L_1L_3R_1R_3g_m + 2C_1C_3C_4L_1L_3R_3) + s^4(2C_1C_3C_4L_3R_1R_3 + C_1C_3L_1L_3R_1g_m + C_1C_3L_1L_3 + 2C_1C_4L_1L_3R_1g_m + 2C_1C_4L_1L_3) + s^3(C_1C_3L_3R_1 + 2C_1C_4L_1R_1R_3g_m + 2C_1C_4L_1R_3 + 2C_1C_4L_3R_1 + 2C_3C_4L_3R_1R_3g_m + 2C_3C_4L_3R_3) + s^2(2C}$

**10.1013 INVALID-ORDER-1013** $Z(s) = \left( \frac{R_1(C_1L_1s^2+1)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{C_3L_3R_3s^2+L_3s+R_3}{C_3L_3s^2+1}, \ \frac{R_4}{C_4R_4s+1}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{}{2R_1R_3g_m + R_1R_4g_m + 2R_3 + R_4 + s^5(2C_1C_3C_4L_1L_3R_1R_3R_4g_m + 2C_1C_3C_4L_1L_3R_3R_4) + s^4(2C_1C_3C_4L_3R_1R_3R_4 + 2C_1C_3L_1L_3R_1R_3g_m + C_1C_3L_1L_3R_1R_4g_m + 2C_1C_3L_1L_3R_3 + C_1C_3L_1L_3R_4 + 2C_1C_4L_1L_3R_1R_4g_m + 2C_1C_4L_1L_3R_4) + s^3(2C_1C_3L_3R_1R_3 + C}$

**10.1014 INVALID-ORDER-1014** $Z(s) = \left( \frac{R_1(C_1L_1s^2+1)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{C_3L_3R_3s^2+L_3s+R_3}{C_3L_3s^2+1}, \ R_4 + \frac{1}{C_4s}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1C_3C_4L_1L_3R_1R_3R_4g_ms^5 + R_1R_3g_m + s^4(C_1C_3L_1L_3R_1R_3g_m + C_1C_4L_1L_3R_1R_4g_m) + s^3(C_1C_4L_1R_1R}{R_1g_m + s^5(2C_1C_3C_4L_1L_3R_1R_3g_m + C_1C_3C_4L_1L_3R_1R_4g_m + 2C_1C_3C_4L_1L_3R_3 + C_1C_3C_4L_1L_3R_4) + s^4(2C_1C_3C_4L_3R_1R_3 + C_1C_3C_4L_3R_1R_4 + C_1C_3L_1L_3R_1g_m + C_1C_3L_1L_3 + 2C_1C_4L_1L_3R_1g_m + 2C_1C_4L_1L_3) + s^3(C_1C_3L_3R_1 + 2C_1C_4L_1R_1R_3g_m + C_1C_4L_1R}$

**10.1015 INVALID-ORDER-1015** $Z(s) = \left( \frac{R_1(C_1L_1s^2+1)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{C_3L_3R_3s^2+L_3s+R_3}{C_3L_3s^2+1}, \ L_4s + \frac{1}{C_4s}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1C_3C_4L_1L_3L_4R_1R_3g_ms^6 + C_1C_4L_1L_3L_4R_1g_ms^5 + L_3R_1g_ms + R_1R_3g_m + s^4(C_1C_3L_1L_3R_1R_3g_m + C_1}{R_1g_m + s^6(C_1C_3C_4L_1L_3L_4R_1g_m + C_1C_3C_4L_1L_3L_4) + s^5(2C_1C_3C_4L_1L_3R_1R_3g_m + 2C_1C_3C_4L_1L_3R_3 + C_1C_3C_4L_3L_4R_1) + s^4(2C_1C_3C_4L_3R_1R_3 + C_1C_3L_1L_3R_1g_m + C_1C_3L_1L_3 + 2C_1C_4L_1L_3R_1g_m + 2C_1C_4L_1L_3 + C_1C_4L_1L_4R_1g_m + C_1C_4L_1L_4 + C_3C_4L_3L_4}$

**10.1016 INVALID-ORDER-1016** $Z(s) = \left( \frac{R_1(C_1L_1s^2+1)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{C_3L_3R_3s^2+L_3s+R_3}{C_3L_3s^2+1}, \ \frac{L_4s}{C_4L_4s^2+1}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{}{2R_1R_3g_m + 2R_3 + s^6(2C_1C_3C_4L_1L_3L_4R_1R_3g_m + 2C_1C_3C_4L_1L_3L_4R_3) + s^5(2C_1C_3C_4L_3L_4R_1R_3 + C_1C_3L_1L_3L_4R_1g_m + C_1C_3L_1L_3L_4 + 2C_1C_4L_1L_3L_4R_1g_m + 2C_1C_4L_1L_3L_4) + s^4(2C_1C_3L_1L_3R_1R_3g_m + 2C_1C_3L_1L_3R_3 + C_1C_3L_3L_4R_1 + 2C_1C_4L_1L_4R_1R_3g_m}$

**10.1017 INVALID-ORDER-1017** $Z(s) = \left( \frac{R_1(C_1L_1s^2+1)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{C_3L_3R_3s^2+L_3s+R_3}{C_3L_3s^2+1}, \ L_4s + R_4 + \frac{1}{C_4s}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1C_3C_4L_1L_3L_4R_1R_3g_ms^6 + R_1R_3g_m + s^5(C_1C_3C_4L_1L_3R_1R_3R_4g_m + C_1C_4L_1L_3L_4R_1}{R_1g_m + s^6(C_1C_3C_4L_1L_3L_4R_1g_m + C_1C_3C_4L_1L_3L_4) + s^5(2C_1C_3C_4L_1L_3R_1R_3g_m + C_1C_3C_4L_1L_3R_1R_4g_m + 2C_1C_3C_4L_1L_3R_3 + C_1C_3C_4L_1L_3R_4 + C_1C_3C_4L_3L_4R_1) + s^4(2C_1C_3C_4L_3R_1R_3 + C_1C_3C_4L_3R_1R_4 + C_1C_3L_1L_3R_1g_m + C_1C_3L_1L_3 + 2C_1C_4L_1L_3R_1g_m}$

**10.1018 INVALID-ORDER-1018** $Z(s) = \left( \frac{R_1(C_1L_1s^2+1)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{C_3L_3R_3s^2+L_3s+R_3}{C_3L_3s^2+1}, \ \frac{L_4R_4s}{C_4L_4R_4s^2+L_4s+R_4}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{}{2R_1R_3R_4g_m + 2R_3R_4 + s^6(2C_1C_3C_4L_1L_3L_4R_1R_3R_4g_m + 2C_1C_3C_4L_1L_3L_4R_3R_4) + s^5(2C_1C_3C_4L_3L_4R_1R_3R_4 + 2C_1C_3L_1L_3L_4R_1R_3g_m + C_1C_3L_1L_3L_4R_1R_4g_m + 2C_1C_3L_1L_3L_4R_3 + C_1C_3L_1L_3L_4R_4 + 2C_1C_4L_1L_3L_4R_1R_4g_m + 2C_1C_4L_1L_3L_4R_4) + s^4(2C_1C_3}$

**10.1019 INVALID-ORDER-1019** $Z(s) = \left( \frac{R_1(C_1L_1s^2+1)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{C_3L_3R_3s^2+L_3s+R_3}{C_3L_3s^2+1}, \ \frac{C_4L_4R_4s^2+L_4s+R_4}{C_4L_4s^2+1}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{}{2R_1R_3g_m + R_1R_4g_m + 2R_3 + R_4 + s^6(2C_1C_3C_4L_1L_3L_4R_1R_3g_m + C_1C_3C_4L_1L_3L_4R_1R_4g_m + 2C_1C_3C_4L_1L_3L_4R_3 + C_1C_3C_4L_1L_3L_4R_4) + s^5(2C_1C_3C_4L_3L_4R_1R_3 + C_1C_3C_4L_3L_4R_1R_4 + C_1C_3L_1L_3L_4R_1g_m + C_1C_3L_1L_3L_4 + 2C_1C_4L_1L_3L_4R_1g_m + 2C_1C_4L_1L}$

**10.1020 INVALID-ORDER-1020** $Z(s) = \left( \frac{R_1(C_1L_1s^2+1)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{C_3L_3R_3s^2+L_3s+R_3}{C_3L_3s^2+1}, \ \frac{R_4(C_4L_4s^2+1)}{C_4L_4s^2+C_4R_4s+1}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{}{2R_1R_3g_m + R_1R_4g_m + 2R_3 + R_4 + s^6(2C_1C_3C_4L_1L_3L_4R_1R_3g_m + C_1C_3C_4L_1L_3L_4R_1R_4g_m + 2C_1C_3C_4L_1L_3L_4R_3 + C_1C_3C_4L_1L_3L_4R_4) + s^5(2C_1C_3C_4L_1L_3R_1R_3R_4g_m + 2C_1C_3C_4L_1L_3R_3R_4 + 2C_1C_3C_4L_3L_4R_1R_3 + C_1C_3C_4L_3L_4R_1R_4 + 2C_1C_4L_1L_3L_4R_1g_m}$

**10.1021  INVALID-ORDER-1021** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{R_3\left(C_3L_3s^2+1\right)}{C_3L_3s^2+C_3R_3s+1}, \ R_4, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1C_3L_1L_3R_1R_3R_4g_m s^4 + R_1R_3R_4g_m + s^2\left(C_1L_1R_1R_3R_4g_m + C_3L_3R_1R_3R_4g_m\right)}{2R_1R_3g_m + R_1R_4g_m + 2R_3 + R_4 + s^4\left(2C_1C_3L_1L_3R_1R_3g_m + C_1C_3L_1L_3R_1R_4g_m + 2C_1C_3L_1L_3R_3 + C_1C_3L_1L_3R_4\right) + s^3\left(C_1C_3L_1R_1R_3R_4g_m + C_1C_3L_1R_3R_4 + 2C_1C_3L_3R_1R_3 + C_1C_3L_3R_1R_4\right) + s^2\left(C_1C_3R_1R_3R_4 + 2C_1L_1R_1R_3g_m + C_1L_1R_1R_4g_m + 2C_1L_1R_3 \ldots\right.}$

**10.1022  INVALID-ORDER-1022** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{R_3\left(C_3L_3s^2+1\right)}{C_3L_3s^2+C_3R_3s+1}, \ \frac{1}{C_4s}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1C_3L_1L_3R_1R_3g_m s^4 + R_1R_3g_m + s^2\left(C_1L_1R_1R_3g_m + C_3L_3R_1R_3g_m\right)}{R_1g_m + s^5\left(2C_1C_3C_4L_1L_3R_1R_3g_m + 2C_1C_3C_4L_1L_3R_3\right) + s^4\left(2C_1C_3C_4L_3R_1R_3 + C_1C_3L_1L_3R_1g_m + C_1C_3L_1L_3\right) + s^3\left(C_1C_3L_1R_1R_3g_m + C_1C_3L_1R_3 + C_1C_3L_3R_1 + 2C_1C_4L_1R_1R_3g_m + 2C_1C_4L_1R_3 + 2C_3C_4L_3R_1R_3g_m + 2C_3C_4L_3R_3\right) + s^2\left(C_1C_3R_1R_3 + 2C_1C_4 \ldots\right.}$

**10.1023  INVALID-ORDER-1023** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{R_3\left(C_3L_3s^2+1\right)}{C_3L_3s^2+C_3R_3s+1}, \ \frac{R_4}{C_4R_4s+1}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1C_3 \ldots}{2R_1R_3g_m + R_1R_4g_m + 2R_3 + R_4 + s^5\left(2C_1C_3C_4L_1L_3R_1R_3R_4g_m + 2C_1C_3C_4L_1L_3R_3R_4\right) + s^4\left(2C_1C_3C_4L_3R_1R_3R_4 + 2C_1C_3L_1L_3R_1R_3g_m + C_1C_3L_1L_3R_1R_4g_m + 2C_1C_3L_1L_3R_3 + C_1C_3L_1L_3R_4\right) + s^3\left(C_1C_3L_1R_1R_3R_4g_m + C_1C_3L_1R_3R_4 + 2C_1C_3L_3R_1R_3 + C_1 \ldots\right.}$

**10.1024  INVALID-ORDER-1024** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{R_3\left(C_3L_3s^2+1\right)}{C_3L_3s^2+C_3R_3s+1}, \ R_4 + \frac{1}{C_4s}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1C_3C_4L_1L_3R_1R_3R_4g_m s \ldots}{R_1g_m + s^5\left(2C_1C_3C_4L_1L_3R_1R_3g_m + C_1C_3C_4L_1L_3R_1R_4g_m + 2C_1C_3C_4L_1L_3R_3 + C_1C_3C_4L_1L_3R_4\right) + s^4\left(C_1C_3C_4L_1R_1R_3R_4g_m + C_1C_3C_4L_1R_3R_4 + 2C_1C_3C_4L_3R_1R_3 + C_1C_3C_4L_3R_1R_4 + C_1C_3L_1L_3R_1g_m + C_1C_3L_1L_3\right) + s^3\left(C_1C_3C_4R_1R_3R_4 + C_1C_3L_1R_1R_3g_m \ldots\right.}$

**10.1025  INVALID-ORDER-1025** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{R_3\left(C_3L_3s^2+1\right)}{C_3L_3s^2+C_3R_3s+1}, \ L_4s + \frac{1}{C_4s}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1C_3C_4L_1L_3L_4R_1R_3g \ldots}{R_1g_m + s^6\left(C_1C_3C_4L_1L_3L_4R_1g_m + C_1C_3C_4L_1L_3L_4\right) + s^5\left(2C_1C_3C_4L_1L_3R_1R_3g_m + 2C_1C_3C_4L_1L_3R_3 + C_1C_3C_4L_1L_4R_1R_3g_m + C_1C_3C_4L_1L_4R_3 + C_1C_3C_4L_3L_4R_1\right) + s^4\left(2C_1C_3C_4L_3R_1R_3 + C_1C_3C_4L_4R_1R_3 + C_1C_3L_1L_3R_1g_m + C_1C_3L_1L_3 + C_1C_4L_1L_4R_1g_m \ldots\right.}$

**10.1026  INVALID-ORDER-1026** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{R_3\left(C_3L_3s^2+1\right)}{C_3L_3s^2+C_3R_3s+1}, \ \frac{L_4s}{C_4L_4s^2+1}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{C_1C_3 \ldots}{2R_1R_3g_m + 2R_3 + s^6\left(2C_1C_3C_4L_1L_3L_4R_1R_3g_m + 2C_1C_3C_4L_1L_3L_4R_3\right) + s^5\left(2C_1C_3C_4L_3L_4R_1R_3 + C_1C_3L_1L_3L_4R_1g_m + C_1C_3L_1L_3L_4\right) + s^4\left(2C_1C_3L_1L_3R_1R_3g_m + 2C_1C_3L_1L_3R_3 + C_1C_3L_1L_4R_1R_3g_m + C_1C_3L_1L_4R_3 + C_1C_3L_3L_4R_1 + 2C_1C_4L_1L_4R_1R_3g_m + \ldots\right.}$

**10.1027  INVALID-ORDER-1027** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{R_3\left(C_3L_3s^2+1\right)}{C_3L_3s^2+C_3R_3s+1}, \ L_4s + R_4 + \frac{1}{C_4s}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{}{R_1g_m + s^6\left(C_1C_3C_4L_1L_3L_4R_1g_m + C_1C_3C_4L_1L_3L_4\right) + s^5\left(2C_1C_3C_4L_1L_3R_1R_3g_m + C_1C_3C_4L_1L_3R_1R_4g_m + 2C_1C_3C_4L_1L_3R_3 + C_1C_3C_4L_1L_3R_4 + C_1C_3C_4L_1L_4R_1R_3g_m + C_1C_3C_4L_1L_4R_3 + C_1C_3C_4L_3L_4R_1\right) + s^4\left(C_1C_3C_4L_1R_1R_3R_4g_m + C_1C_3C_4L_1R_3R_4 + 2\ldots\right.}$

**10.1028  INVALID-ORDER-1028** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{R_3\left(C_3L_3s^2+1\right)}{C_3L_3s^2+C_3R_3s+1}, \ \frac{L_4R_4s}{C_4L_4R_4s^2+L_4s+R_4}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{}{2R_1R_3R_4g_m + 2R_3R_4 + s^6\left(2C_1C_3C_4L_1L_3L_4R_1R_3R_4g_m + 2C_1C_3C_4L_1L_3L_4R_3R_4\right) + s^5\left(2C_1C_3C_4L_3L_4R_1R_3R_4 + 2C_1C_3L_1L_3L_4R_1R_3g_m + C_1C_3L_1L_3L_4R_1R_4g_m + 2C_1C_3L_1L_3L_4R_3 + C_1C_3L_1L_3L_4R_4\right) + s^4\left(2C_1C_3L_1L_3R_1R_3R_4g_m + 2C_1C_3L_1L_3R_3R_4 + C_1C_3 \ldots\right.}$

**10.1029  INVALID-ORDER-1029** $Z(s) = \left( \frac{R_1\left(C_1L_1s^2+1\right)}{C_1L_1s^2+C_1R_1s+1}, \ \infty, \ \frac{R_3\left(C_3L_3s^2+1\right)}{C_3L_3s^2+C_3R_3s+1}, \ \frac{C_4L_4R_4s^2+L_4s+R_4}{C_4L_4s^2+1}, \ \infty, \ \infty \right)$

$H(s) = \dfrac{}{2R_1R_3g_m + R_1R_4g_m + 2R_3 + R_4 + s^6\left(2C_1C_3C_4L_1L_3L_4R_1R_3g_m + C_1C_3C_4L_1L_3L_4R_1R_4g_m + 2C_1C_3C_4L_1L_3L_4R_3 + C_1C_3C_4L_1L_3L_4R_4\right) + s^5\left(C_1C_3C_4L_1L_4R_1R_3R_4g_m + C_1C_3C_4L_1L_4R_3R_4 + 2C_1C_3C_4L_3L_4R_1R_3 + C_1C_3C_4L_3L_4R_1R_4 + C_1C_3L_1L_3L_4R_1g_m + C_1 \ldots\right.}$

**10.1030  INVALID-ORDER-1030** $Z(s) = \left( \frac{R_1\left(C_1 L_1 s^2 + 1\right)}{C_1 L_1 s^2 + C_1 R_1 s + 1}, \; \infty, \; \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1}, \; \frac{R_4\left(C_4 L_4 s^2 + 1\right)}{C_4 L_4 s^2 + C_4 R_4 s + 1}, \; \infty, \; \infty \right)$

$H(s) = \frac{}{2R_1 R_3 g_m + R_1 R_4 g_m + 2R_3 + R_4 + s^6\left(2C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_3 g_m + C_1 C_3 C_4 L_1 L_3 L_4 R_1 R_4 g_m + 2C_1 C_3 C_4 L_1 L_3 L_4 R_3 + C_1 C_3 C_4 L_1 L_3 L_4 R_4\right) + s^5\left(2C_1 C_3 C_4 L_1 L_3 R_1 R_3 R_4 g_m + 2C_1 C_3 C_4 L_1 L_3 R_3 R_4 + C_1 C_3 C_4 L_1 L_4 R_1 R_3 R_4 g_m + C_1 C_3 C_4 L_1 L_4 R_3 R_4 + 2C_1 C_3 C_4 L_3 L_4 R}$

# 11  PolynomialError