Filter Summary Report: TIA,simple,Z3

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Contents

1 Examined $H(z)$ for TIA simple Z3: Z_3

$$H(z) = Z_3$$

2 HP

3 BP

3.1 BP-1 $Z(s) = \left(\infty,\ \infty,\ \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3},\ \infty,\ \infty,\ \infty\right)$

$$H(s) = \frac{L_3 R_3 s}{C_3 L_3 R_3 s^2 + L_3 s + R_3}$$

Parameters:

Q: $C_3 R_3 \sqrt{\frac{1}{C_3 L_3}}$
wo: $\sqrt{\frac{1}{C_3 L_3}}$
bandwidth: $\frac{1}{C_3 R_3}$
K-LP: 0
K-HP: 0
K-BP: R_3
Qz: 0
Wz: None

4 LP

5 BS

5.1 BS-1 $Z(s) = \left(\infty,\ \infty,\ \frac{R_3\left(C_3 L_3 s^2 + 1\right)}{C_3 L_3 s^2 + C_3 R_3 s + 1},\ \infty,\ \infty,\ \infty\right)$

$$H(s) = \frac{C_3 L_3 R_3 s^2 + R_3}{C_3 L_3 s^2 + C_3 R_3 s + 1}$$

Parameters:

Q: $\frac{L_3 \sqrt{\frac{1}{C_3 L_3}}}{R_3}$
wo: $\sqrt{\frac{1}{C_3 L_3}}$
bandwidth: $\frac{R_3}{L_3}$
K-LP: R_3
K-HP: R_3
K-BP: 0
Qz: None
Wz: $\sqrt{\frac{1}{C_3 L_3}}$

6 GE

7 AP

8 INVALID-NUMER

9 INVALID-WZ

10 INVALID-ORDER

10.1 INVALID-ORDER-1 $Z(s) = (\infty,\ \infty,\ R_3,\ \infty,\ \infty,\ \infty)$

$$H(s) = R_3$$

10.2 INVALID-ORDER-2 $Z(s) = \left(\infty,\ \infty,\ \frac{1}{C_3 s},\ \infty,\ \infty,\ \infty\right)$

$$H(s) = \frac{1}{C_3 s}$$

10.3 INVALID-ORDER-3 $Z(s) = \left(\infty,\ \infty,\ \frac{R_3}{C_3 R_3 s+1},\ \infty,\ \infty,\ \infty\right)$

$$H(s) = \frac{R_3}{C_3 R_3 s + 1}$$

10.4 INVALID-ORDER-4 $Z(s) = \left(\infty,\ \infty,\ R_3 + \frac{1}{C_3 s},\ \infty,\ \infty,\ \infty\right)$

$$H(s) = \frac{C_3 R_3 s + 1}{C_3 s}$$

10.5 INVALID-ORDER-5 $Z(s) = \left(\infty,\ \infty,\ L_3 s + \frac{1}{C_3 s},\ \infty,\ \infty,\ \infty\right)$

$$H(s) = \frac{C_3 L_3 s^2 + 1}{C_3 s}$$

10.6 INVALID-ORDER-6 $Z(s) = \left(\infty,\ \infty,\ \frac{L_3 s}{C_3 L_3 s^2+1},\ \infty,\ \infty,\ \infty\right)$

$$H(s) = \frac{L_3 s}{C_3 L_3 s^2 + 1}$$

10.7 INVALID-ORDER-7 $Z(s) = \left(\infty,\ \infty,\ L_3 s + R_3 + \frac{1}{C_3 s},\ \infty,\ \infty,\ \infty\right)$

$$H(s) = \frac{C_3 L_3 s^2 + C_3 R_3 s + 1}{C_3 s}$$

10.8 INVALID-ORDER-8 $Z(s) = \left(\infty,\ \infty,\ \frac{L_3 s}{C_3 L_3 s^2+1} + R_3,\ \infty,\ \infty,\ \infty\right)$

$$H(s) = \frac{C_3 L_3 R_3 s^2 + L_3 s + R_3}{C_3 L_3 s^2 + 1}$$

11 PolynomialError