Filter Wizard

Created by Onur Efe on 12/07/2016

ANALOG DEVICES

Filter Wizard Design Report

Filter Requirements for Low-Pass, 8th order Butterworth

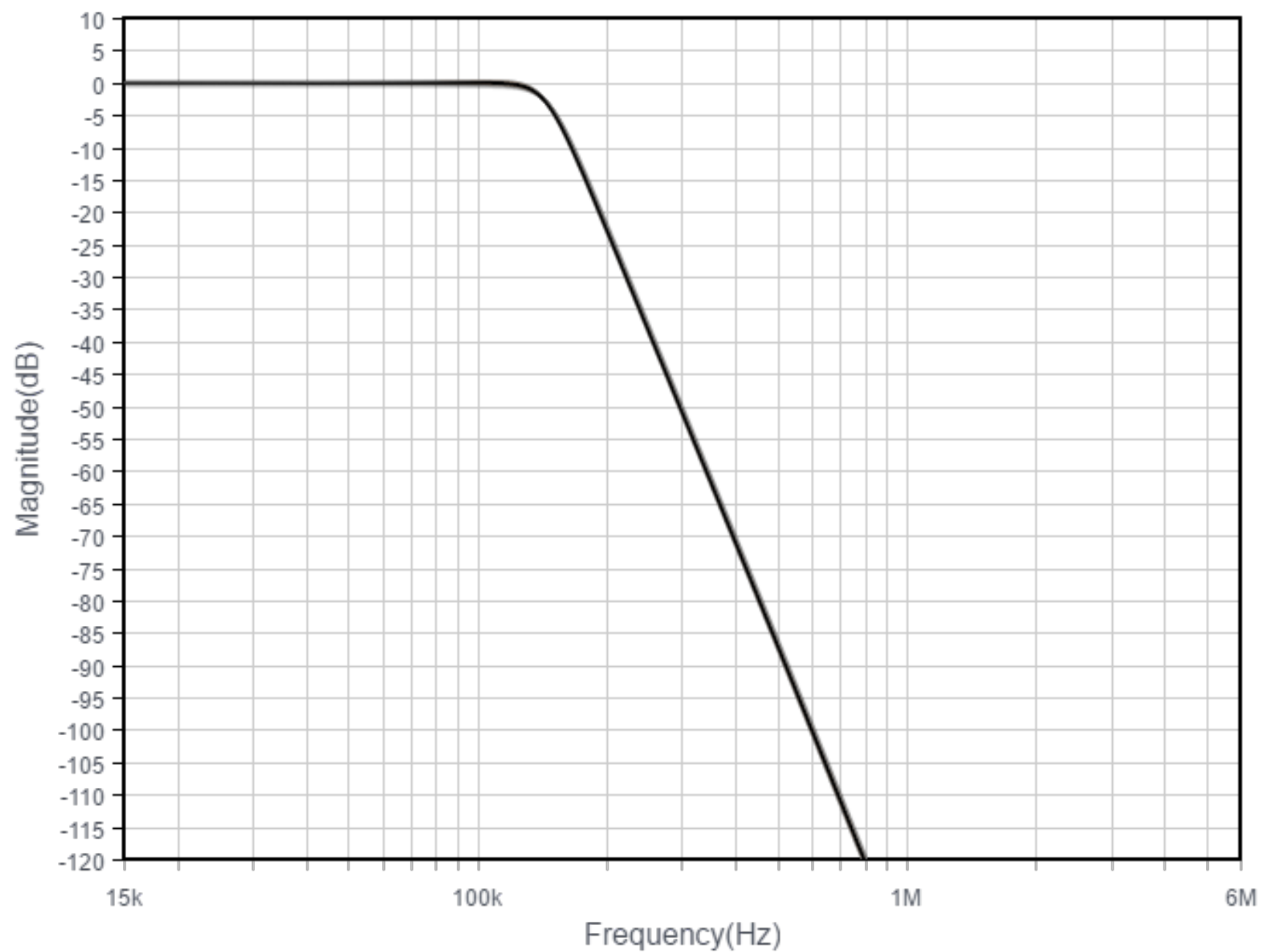Specifications: Optimize for Noise, +Vs= 5, -Vs= 0, GBW comp

Gain: 0 dB

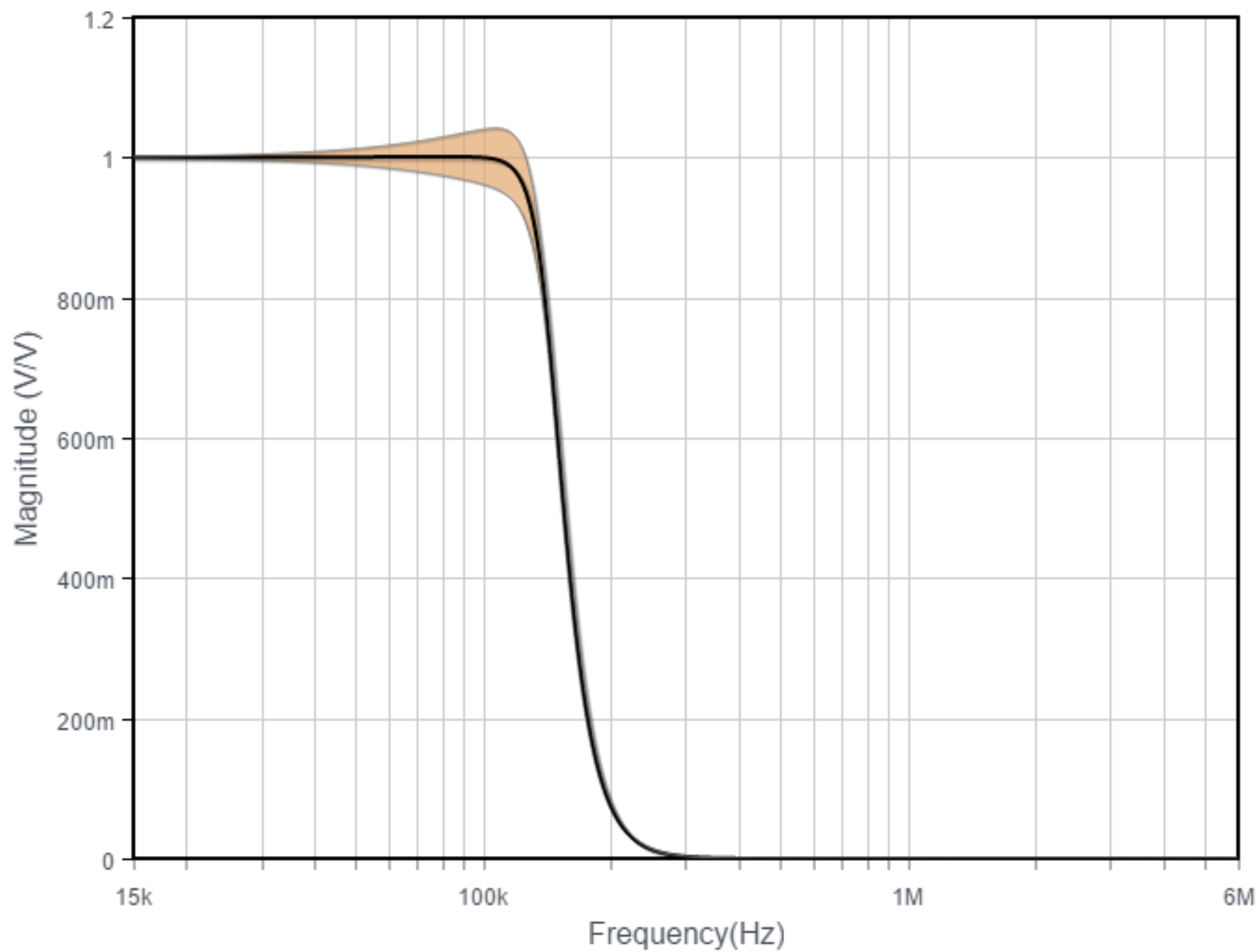Passband: -3dB at 150kHz

Stopband: -96dB at 600kHz

Component Tolerances: Capacitor = 1%; Resistor = 0.1%; Inductor = 5%; Op Amp GBW = 20%
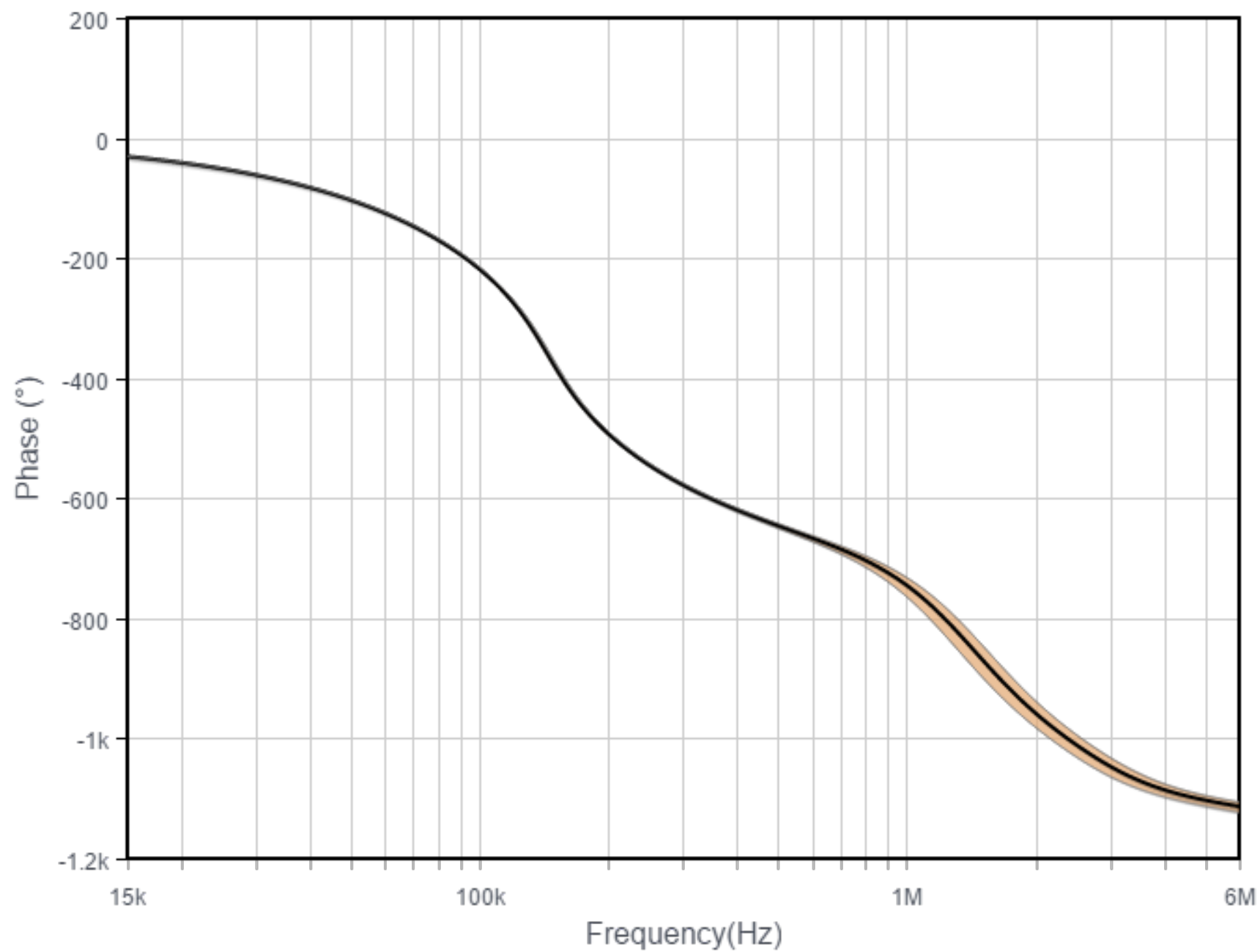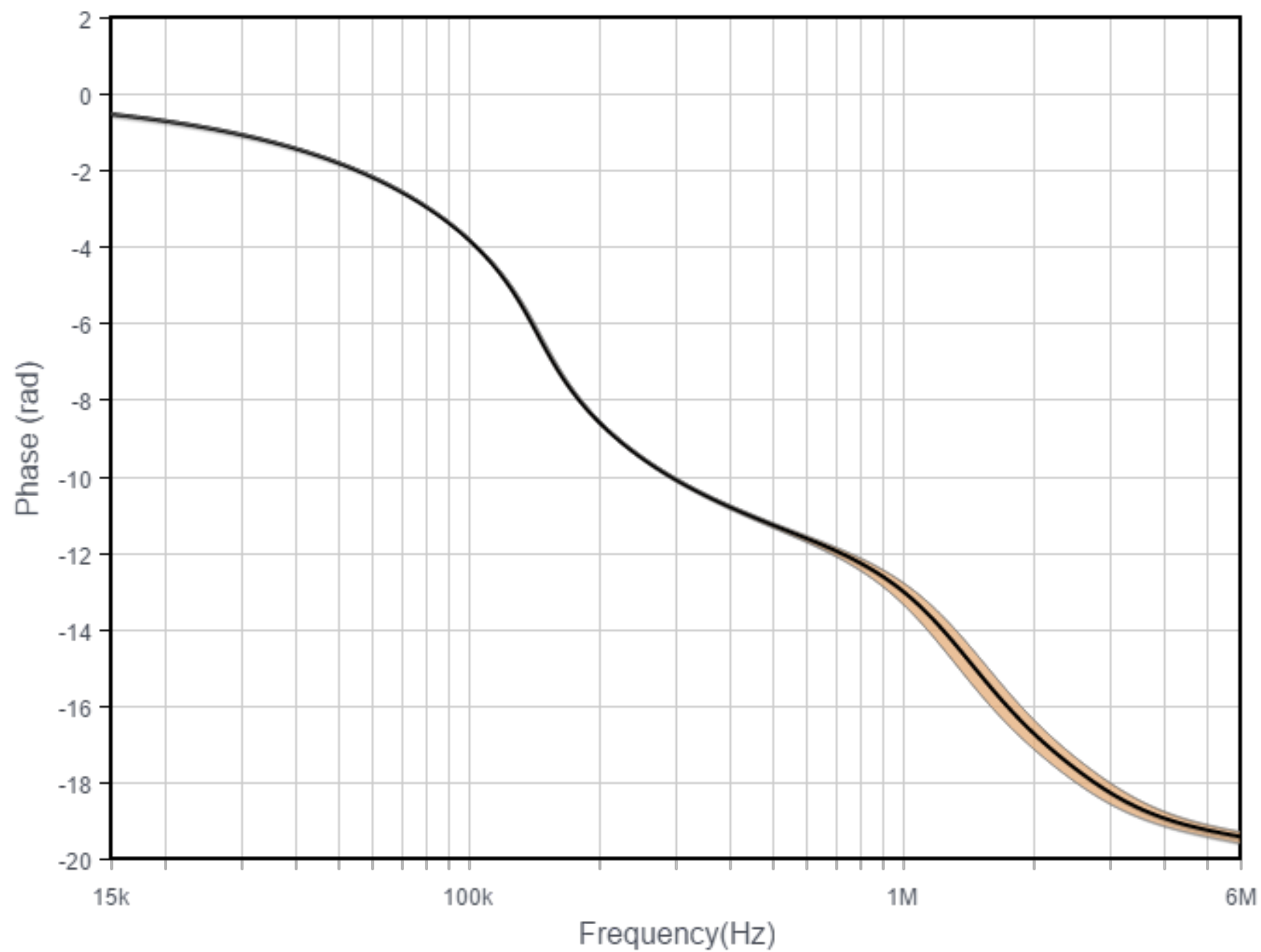
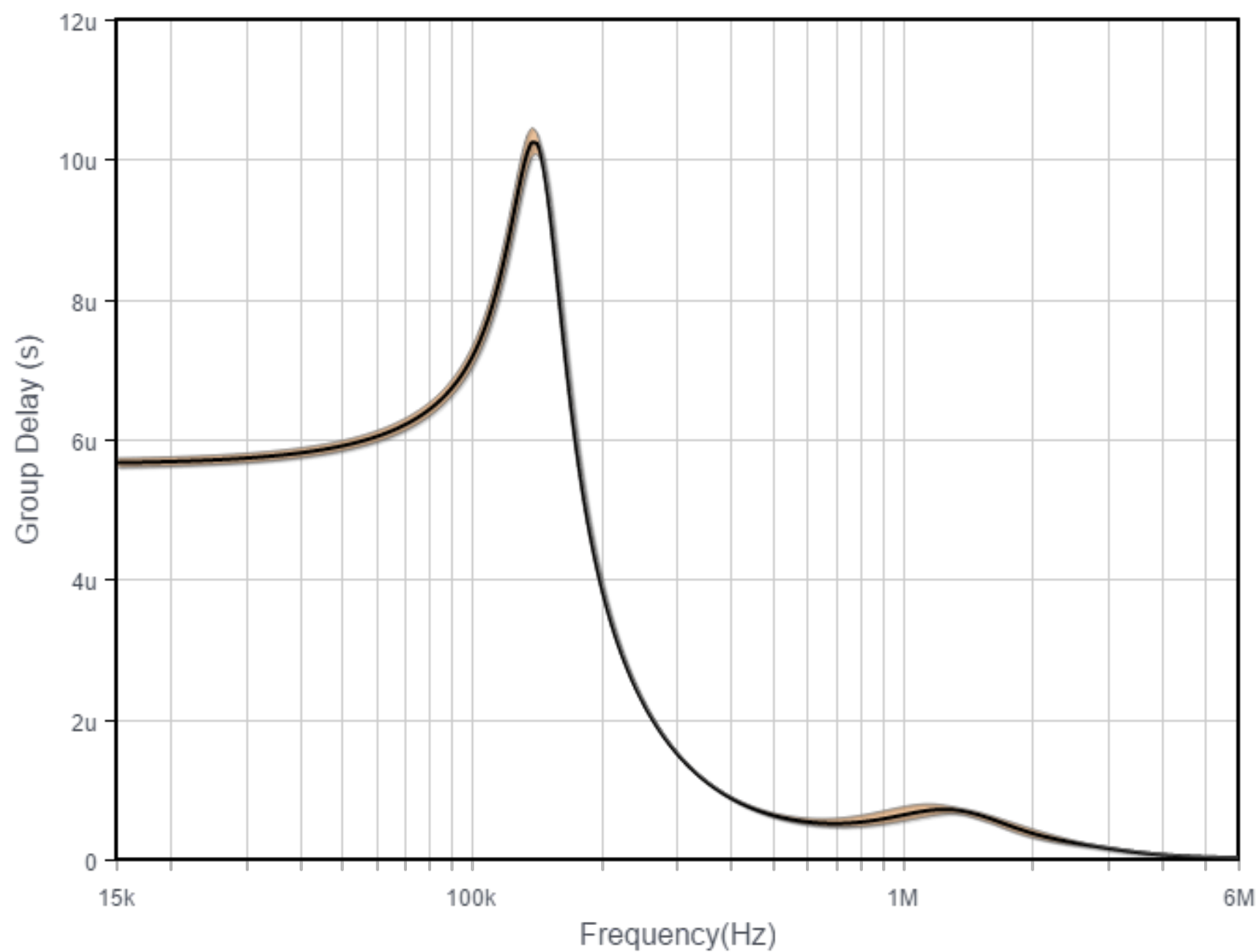BOM: refer to BOM.csv file
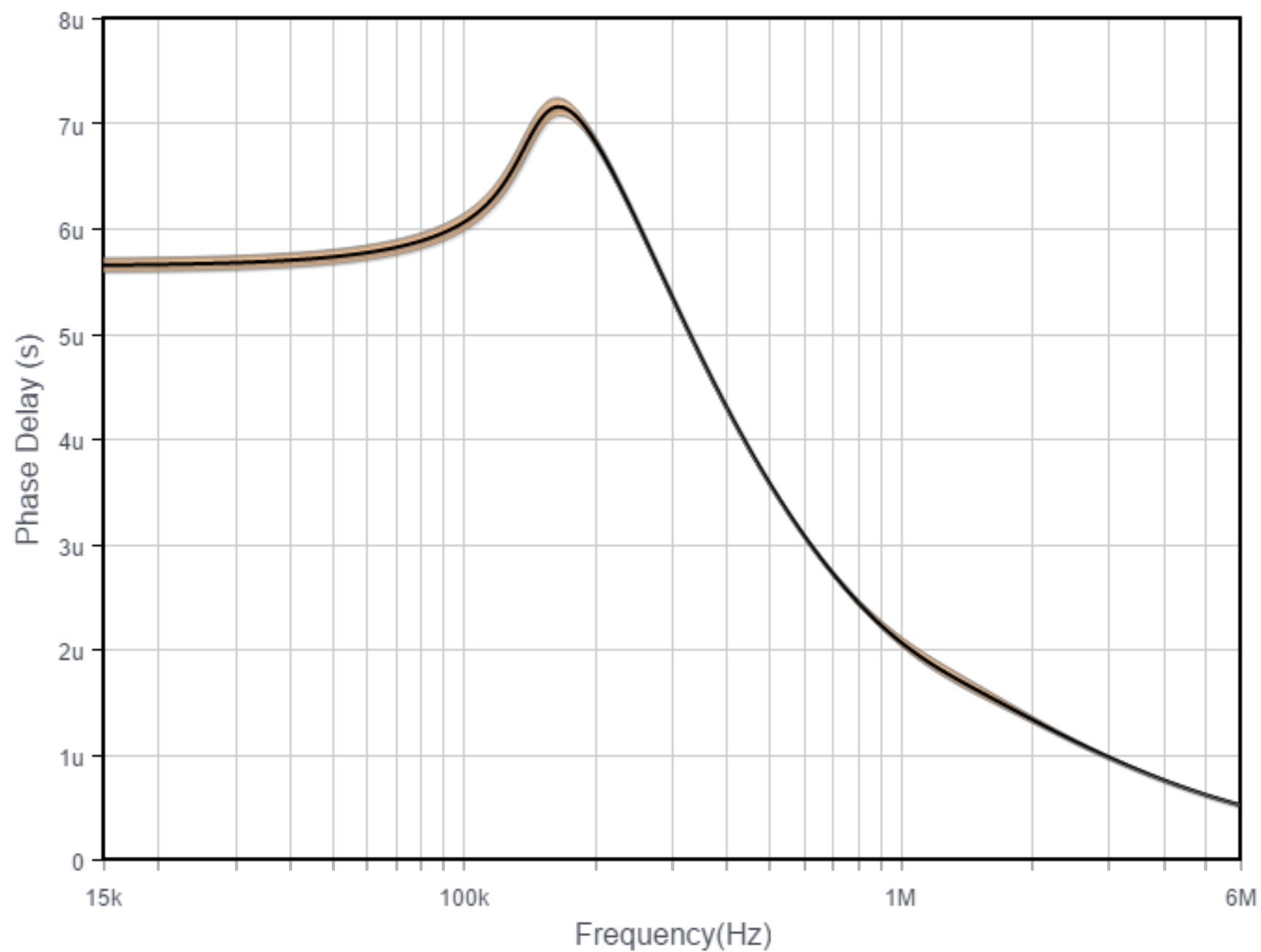
Magnitude(dB)

Magnitude(Volts per Volt)
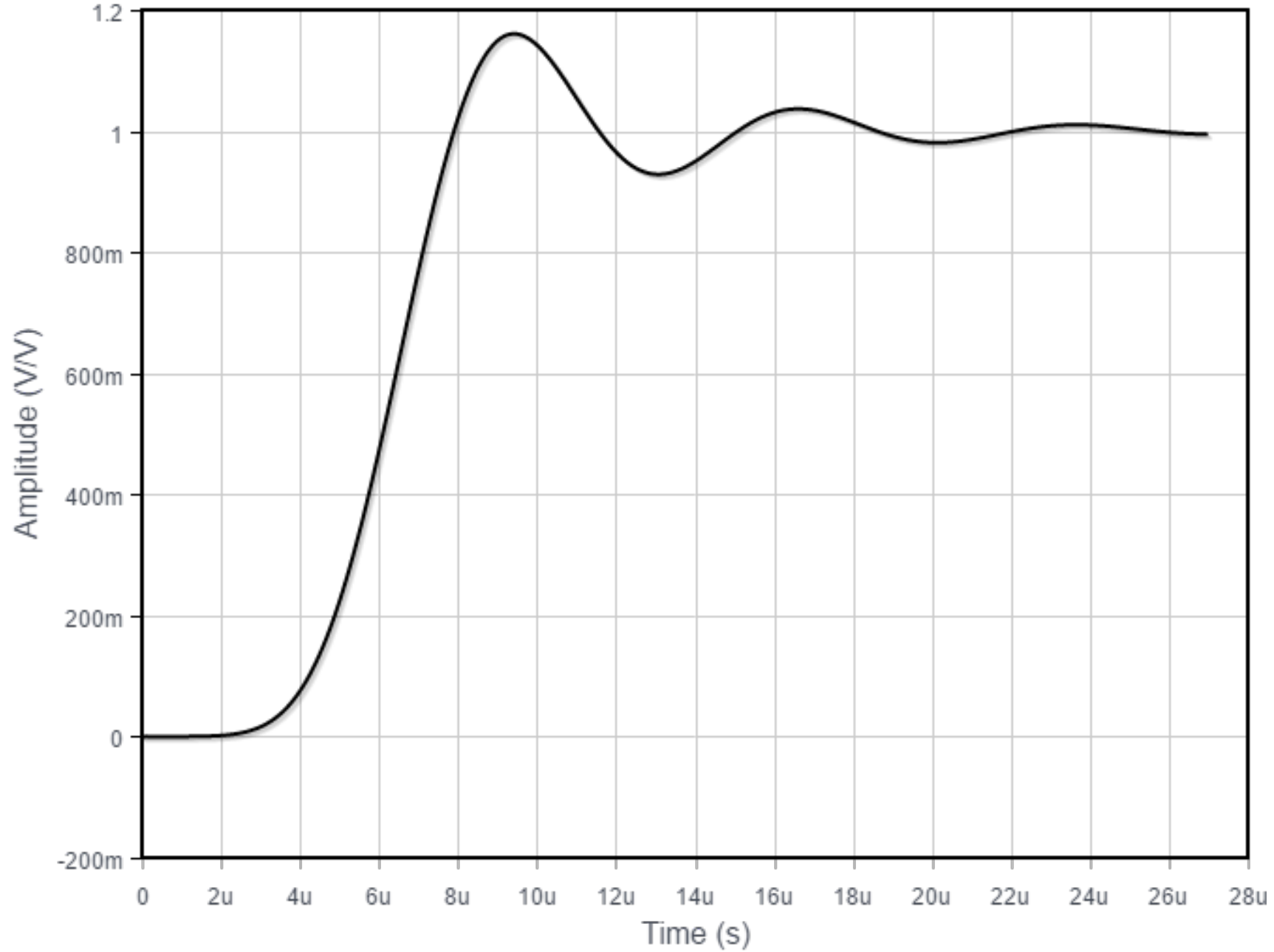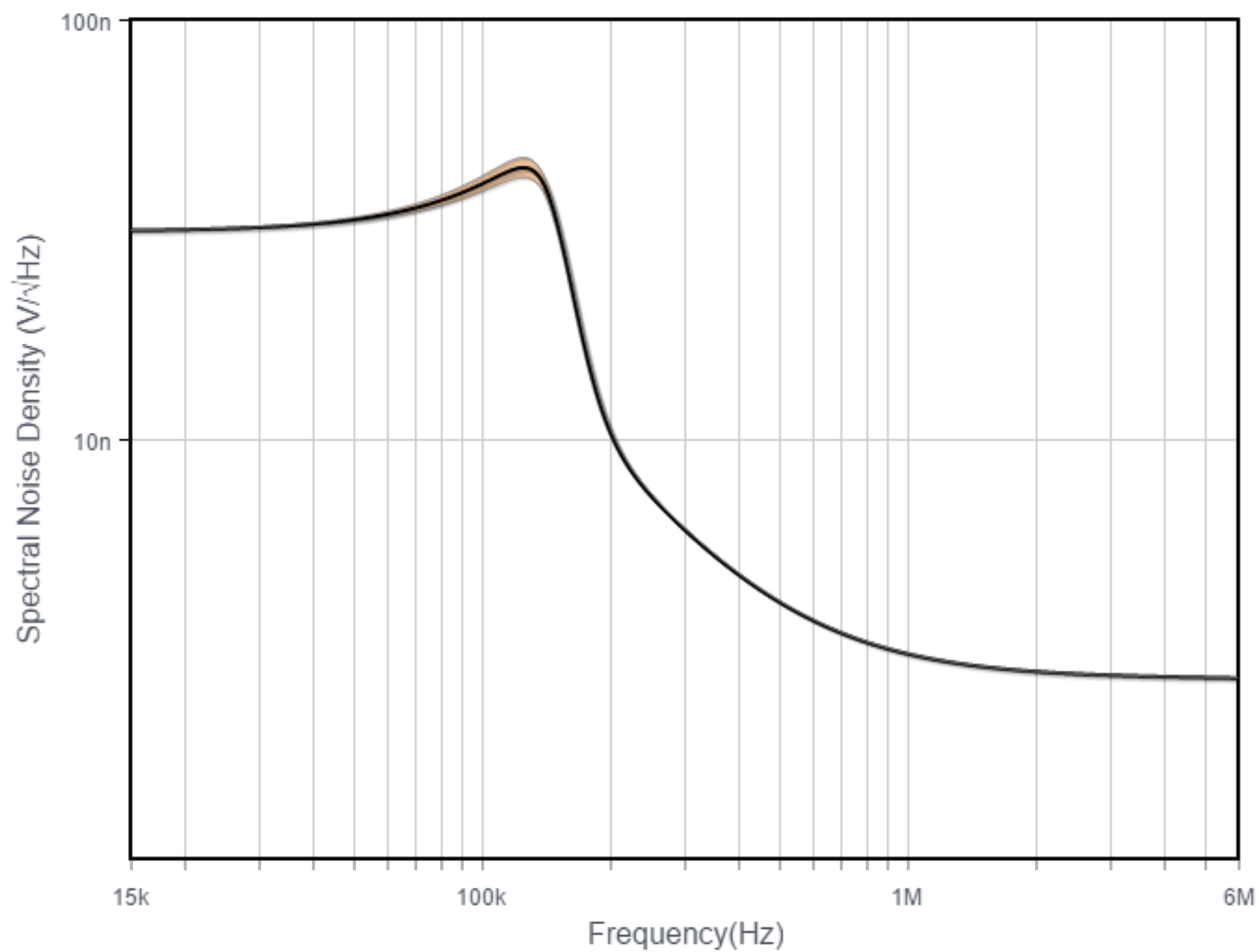
Phase(degrees)

Phase(radians)

Group Delay

Phase Delay

Step Response

Noise

Circuit

Stage A
2nd order
Low-Pass
Sallen Key

C1A
1.1nF
1%

IN

R1A
4.99kΩ
0.1%

R2A
4.99kΩ
0.1%

C2A
43pF
1%

1/2 AD8656
U1A

Stage B
2nd order
Low-Pass
Sallen Key

C1B
1.1nF
1%

R1B
976Ω
0.1%

R2B
10.2kΩ
0.1%

C2B
110pF
1%

1/2 AD8656
U1B

Stage C
2nd order
Low-Pass
Sallen Key

C1C
1.1nF
1%

R1C
619Ω
0.1%

R2C
15.8kΩ
0.1%

C2C
110pF
1%

1/2 AD8656
U1C

Stage D
2nd order
Low-Pass
Sallen Key

C1D
1.1nF
1%

R1D
523Ω
0.1%

R2D
19.1kΩ
0.1%

C2D
110pF
1%

1/2 AD8656
U1D

OUT

C9A
100nF
20%

5V

C9B
100nF
20%

5V

C9C
100nF
20%

5V

C9D
100nF
20%

5V

C101M
10uF
20%

5V

C9M
0.1uF
20%

5V

REF

5V

1/2 AD8656
U1A

REF

5V

1/2 AD8656
U1B

REF

5V

1/2 AD8656
U1C

REF

5V

1/2 AD8656
U1D