Filter Wizard

Filter Wizard Design

Created on 04/09/2025

ANALOG DEVICES

Filter Wizard Design Report

Filter Requirements for Low-Pass, 3rd order Butterworth Bessel

Specifications: Optimize: Specific Parts; +Vs: 3.3; -Vs: -3.3

Gain: 0 dB

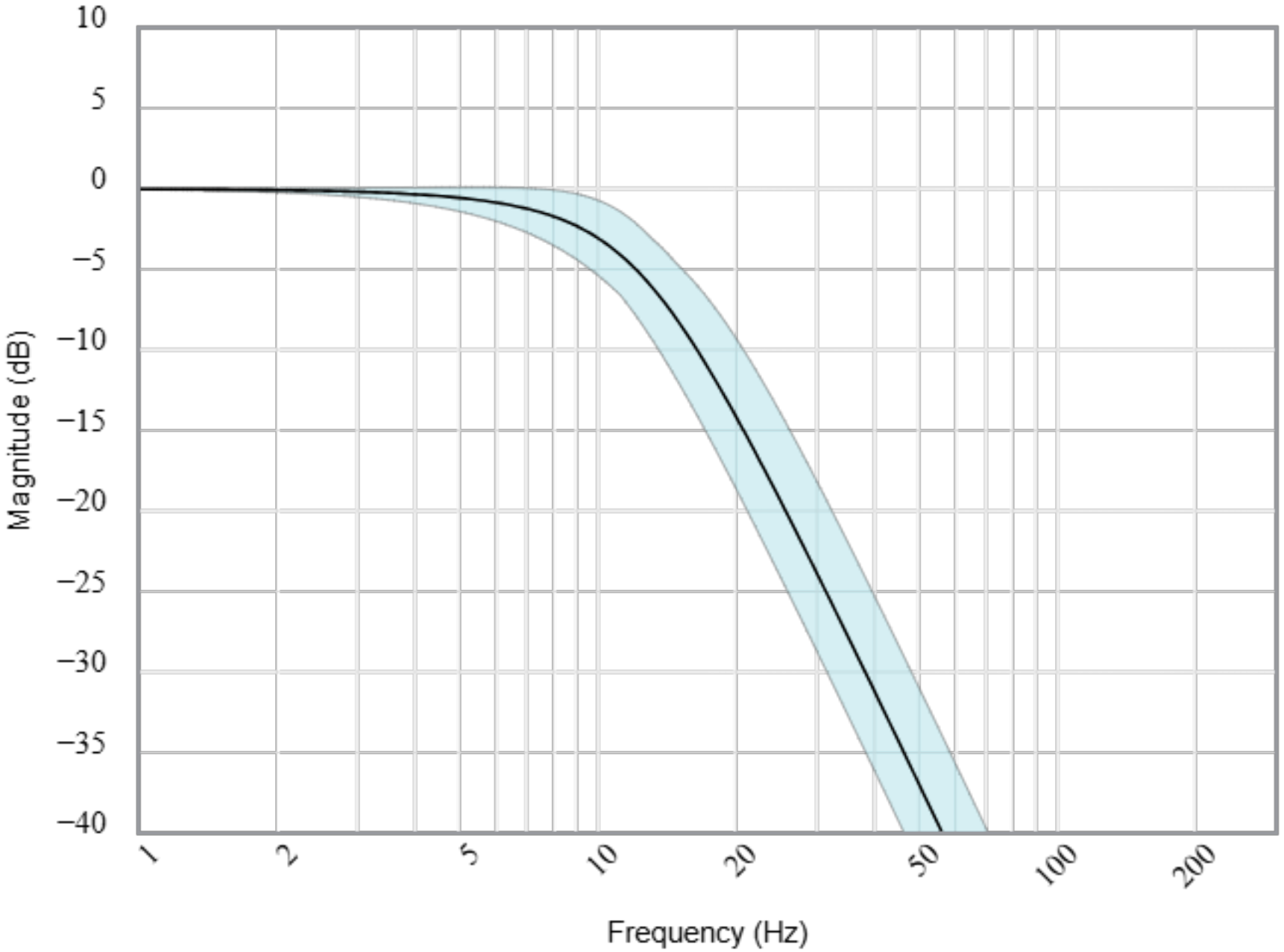
Passband: -3dB at 10Hz

Stopband: -20dB at 30Hz

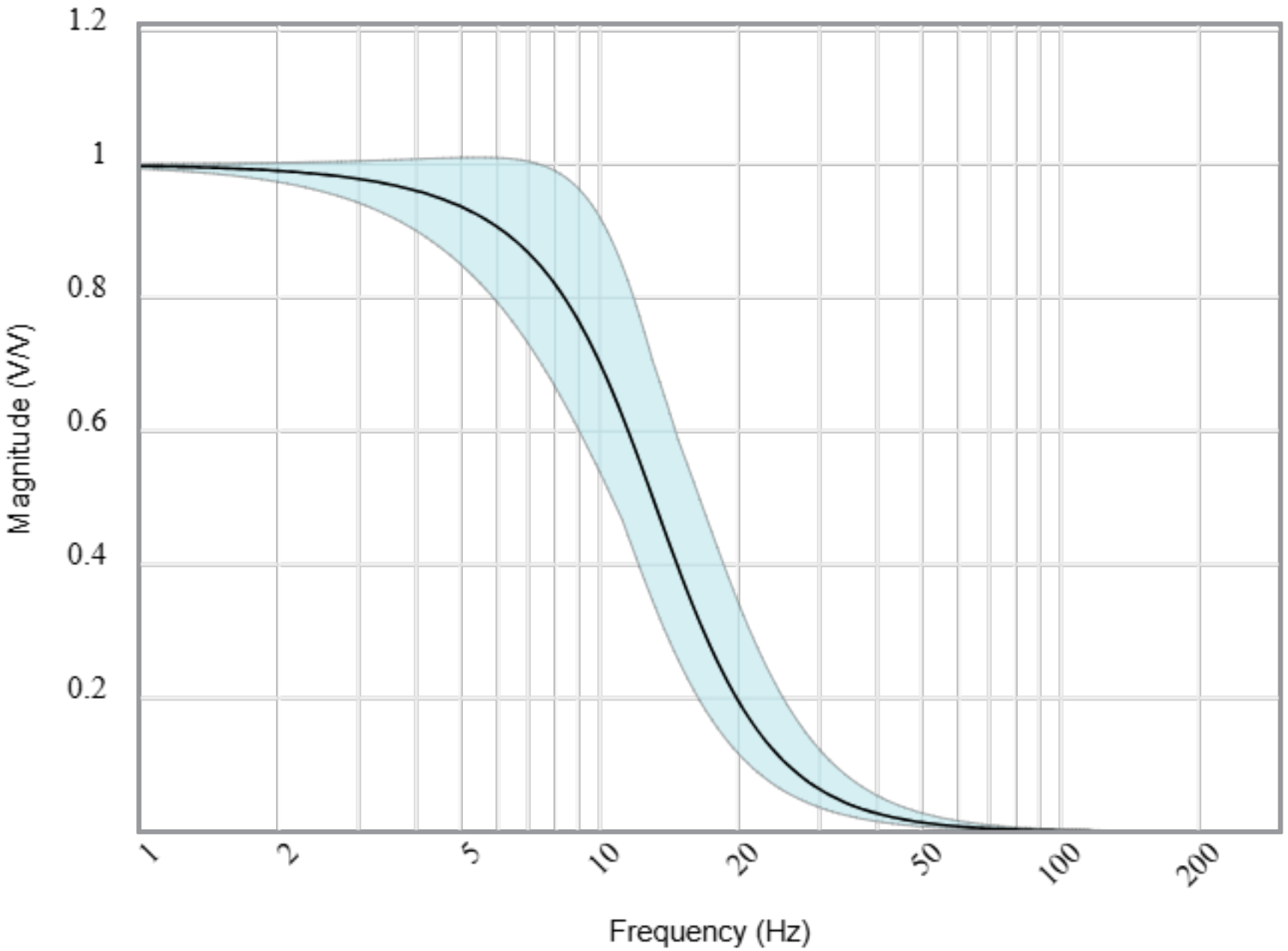
Component Tolerances: Capacitor = 20%; Resistor = 1%; Inductor = 5%; Op Amp GBW = 20%

BOM: refer to BOM.csv file

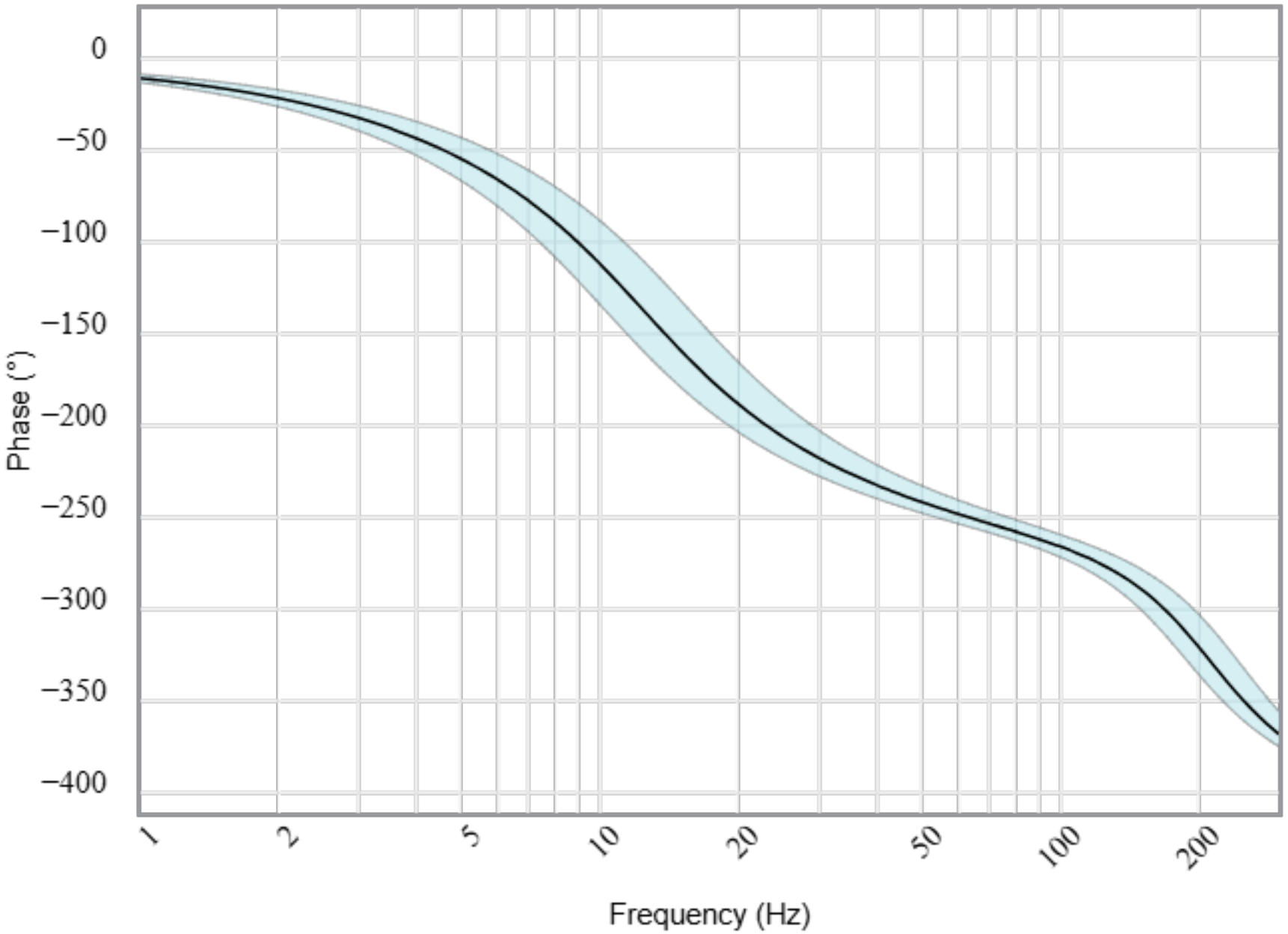
Magnitude(dB)



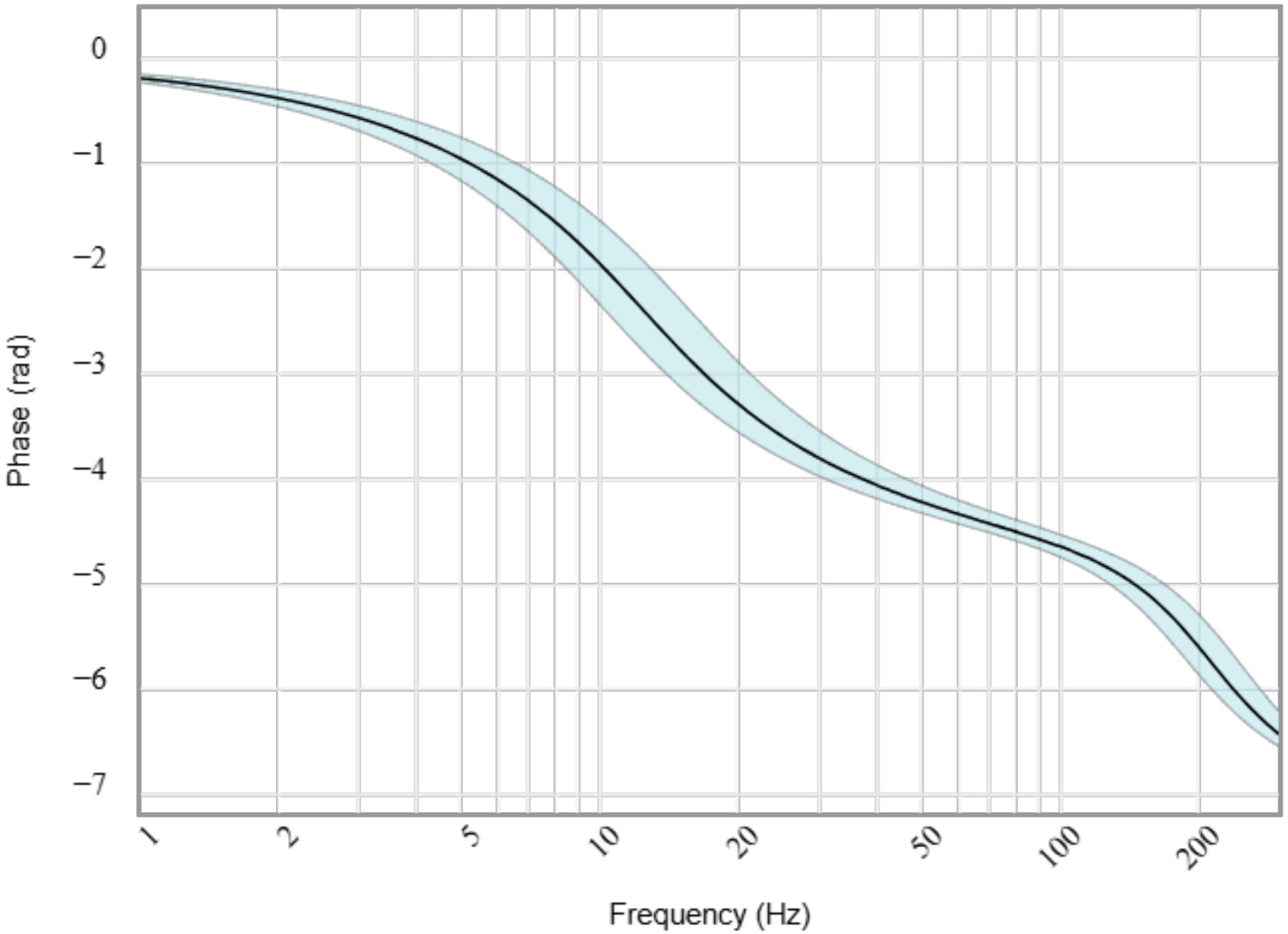
Magnitude(Volts per Volt)



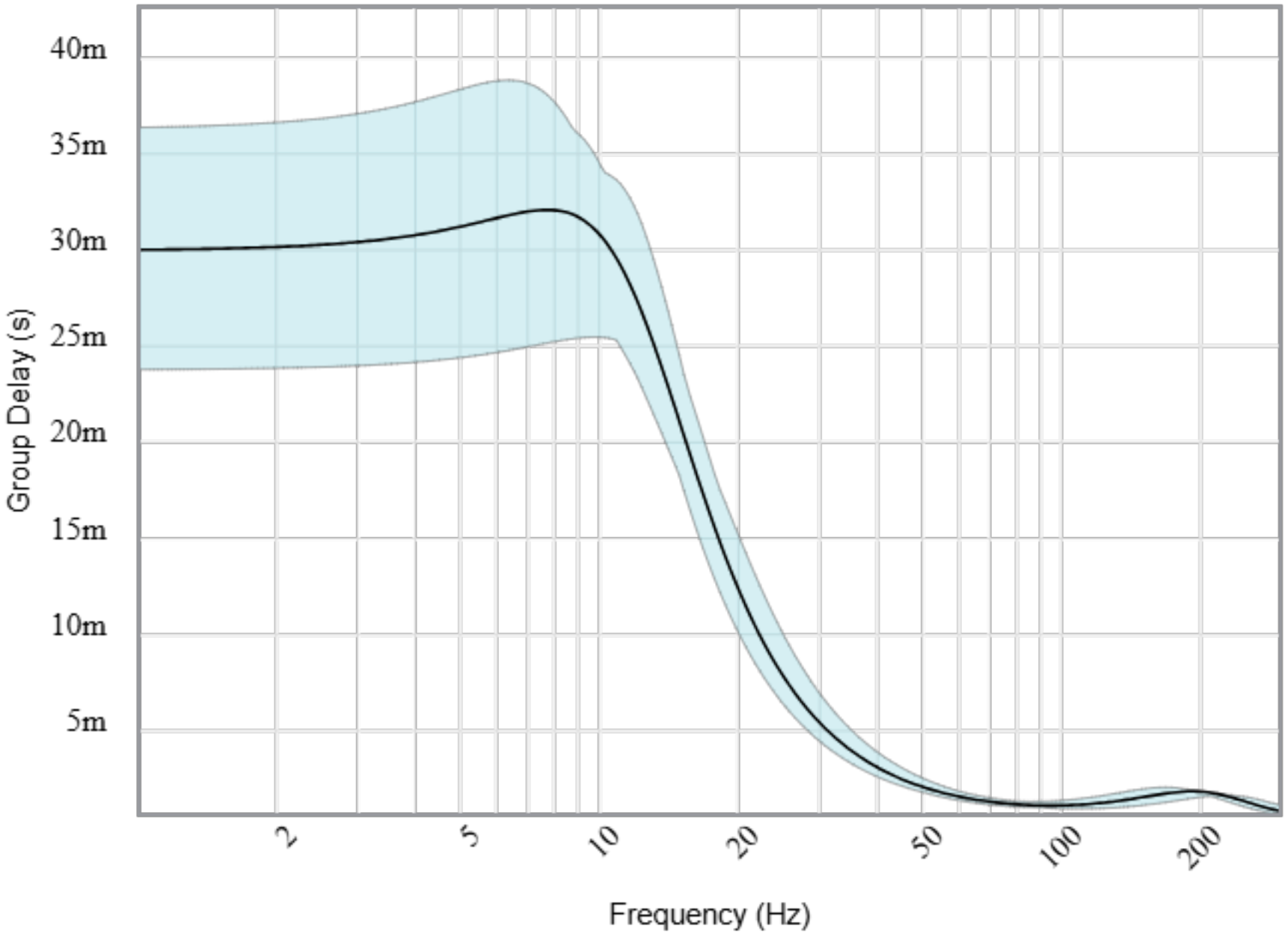
Phase(degrees)



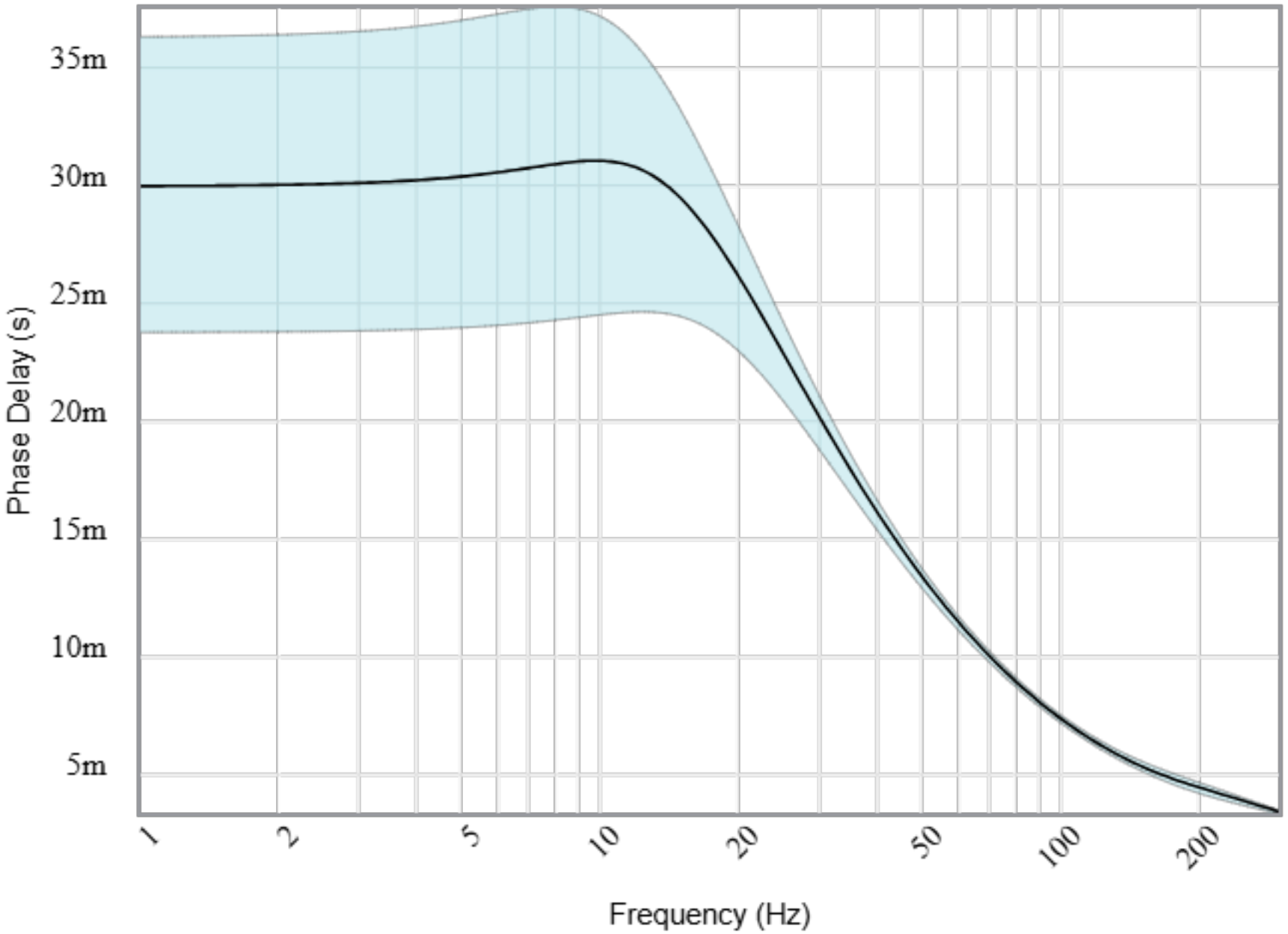
Phase(radians)



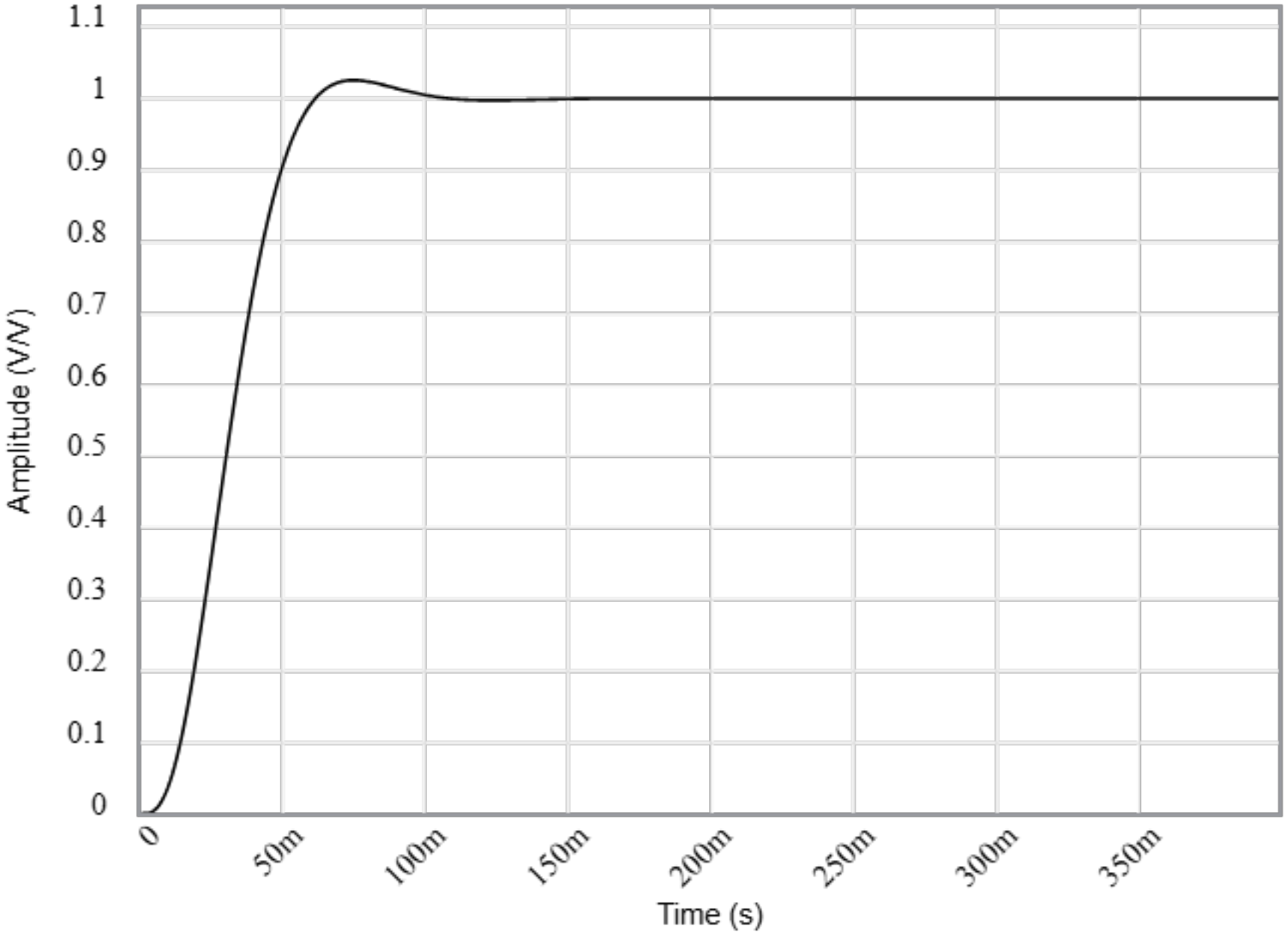
Group Delay


40m
35m
30m
25m
20m
15m
10m
5m
Group Delay (s)
2
5
10
20
50
100
200
Frequency (Hz)

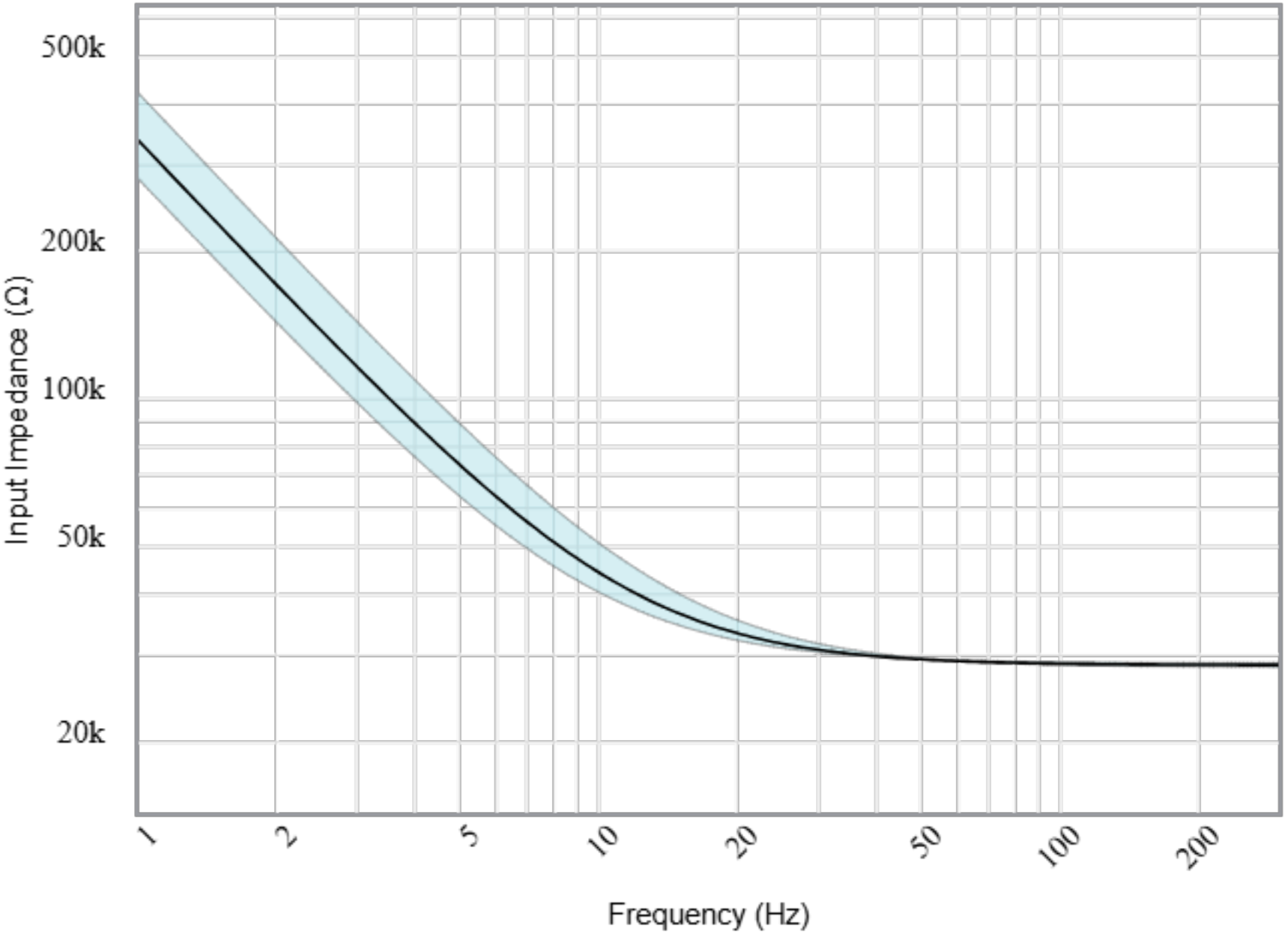
Phase Delay


35m
30m
25m
20m
15m
10m
5m
Phase Delay (s)
1
2
5
10
20
50
100
200
Frequency (Hz)

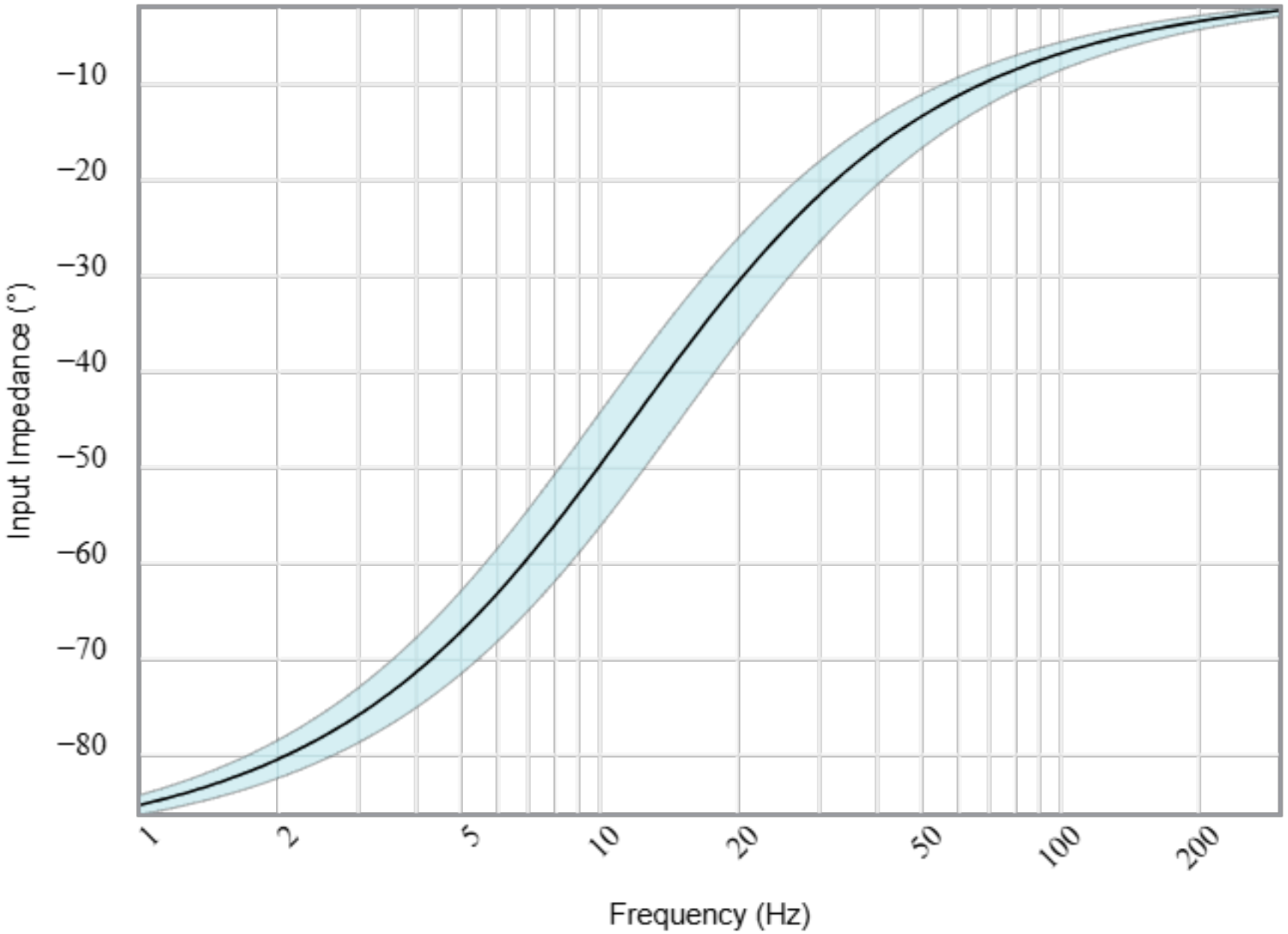
Step Response



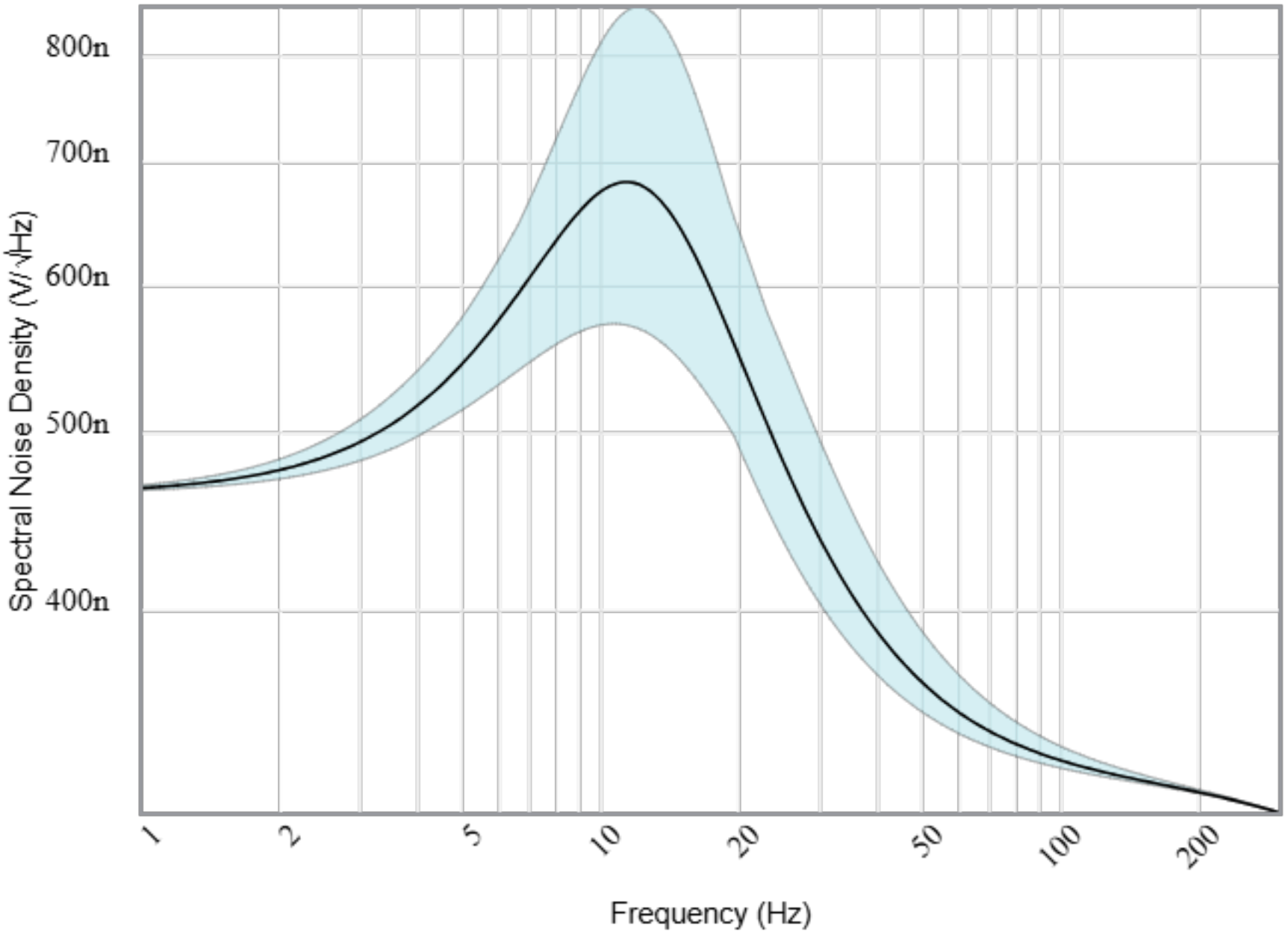
Input Impedance Magnitude



Input Impedance Phase



Noise


800n
700n
600n
500n
400n
Spectral Noise Density (V/√Hz)
1
2
5
10
20
50
100
200
Frequency (Hz)

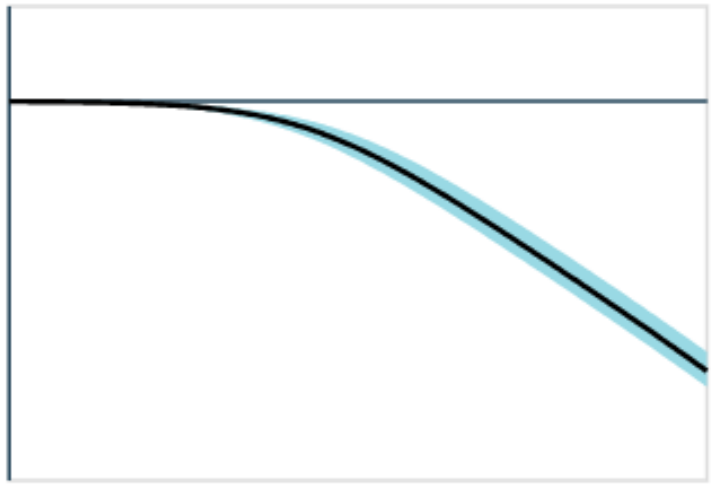
Stages

Your filter requires 2 op amp stage(s) with the following characteristics

A

1st order
Low-Pass
Buffered RC

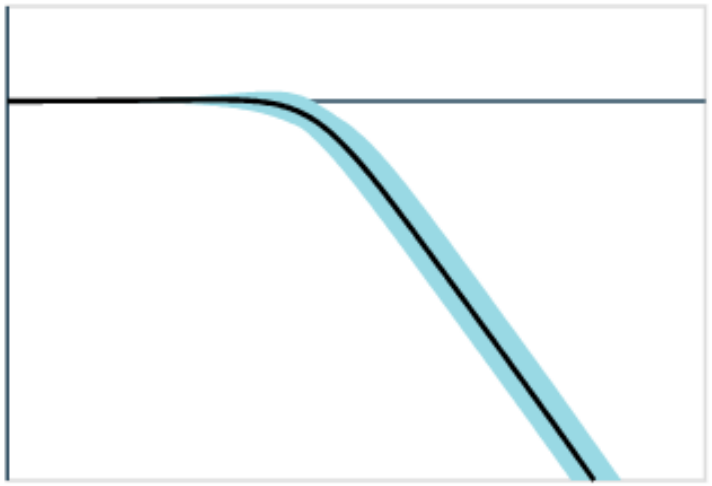
	Target	Simulated
Gain (V/V):	1	1 to 1
f_p (Hz):	11.9	9.73 to 14.9
Q:	N/A	N/A to N/A



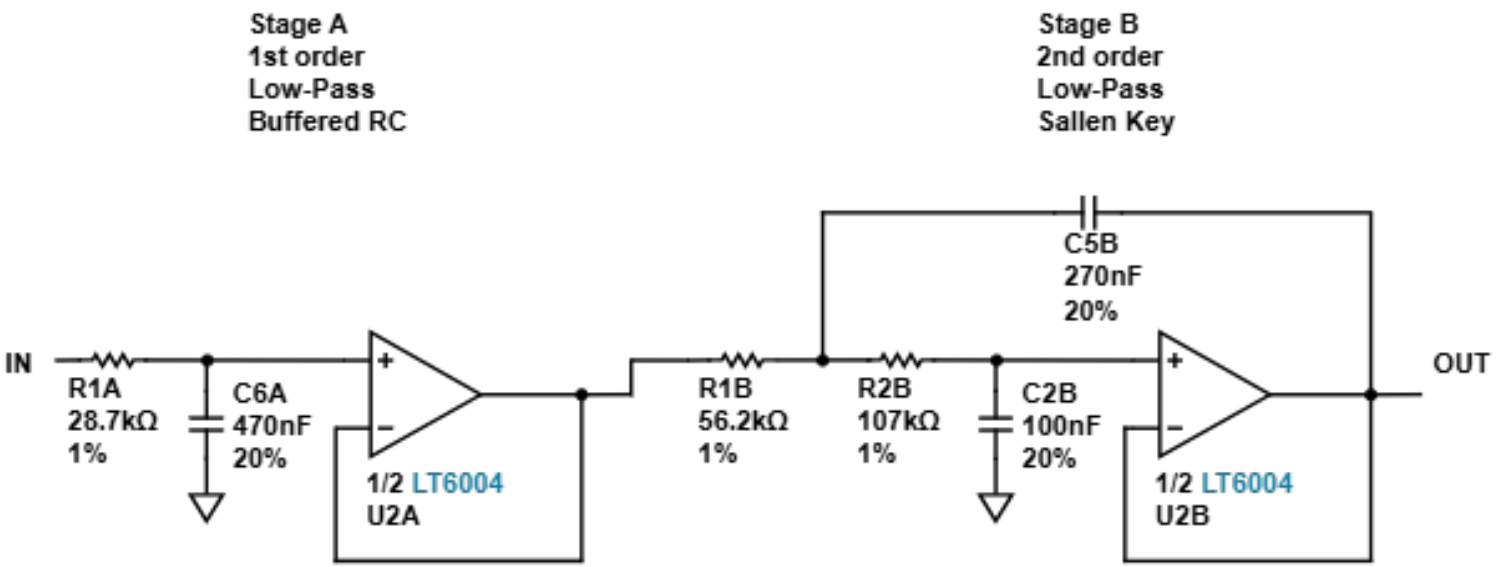
B

2nd order
Low-Pass
Sallen Key

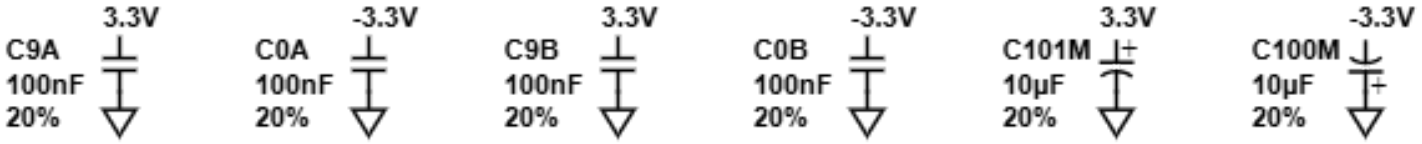
Target	Simulated
1	1 to 1
12.6	10.3 to 15.7
781m	639m to 964m



Circuit



BYPASS CAPACITORS



SPARES Why The Spares?