



## Filter Wizard

DesignFilesSubsonic10Hz

Created on 06/18/2024



# Filter Wizard Design Report

Filter Requirements for High-Pass, 4th order Butterworth

Specifications: Optimize: Specific Parts; +Vs: 15; -Vs: -15

Gain: 0 dB

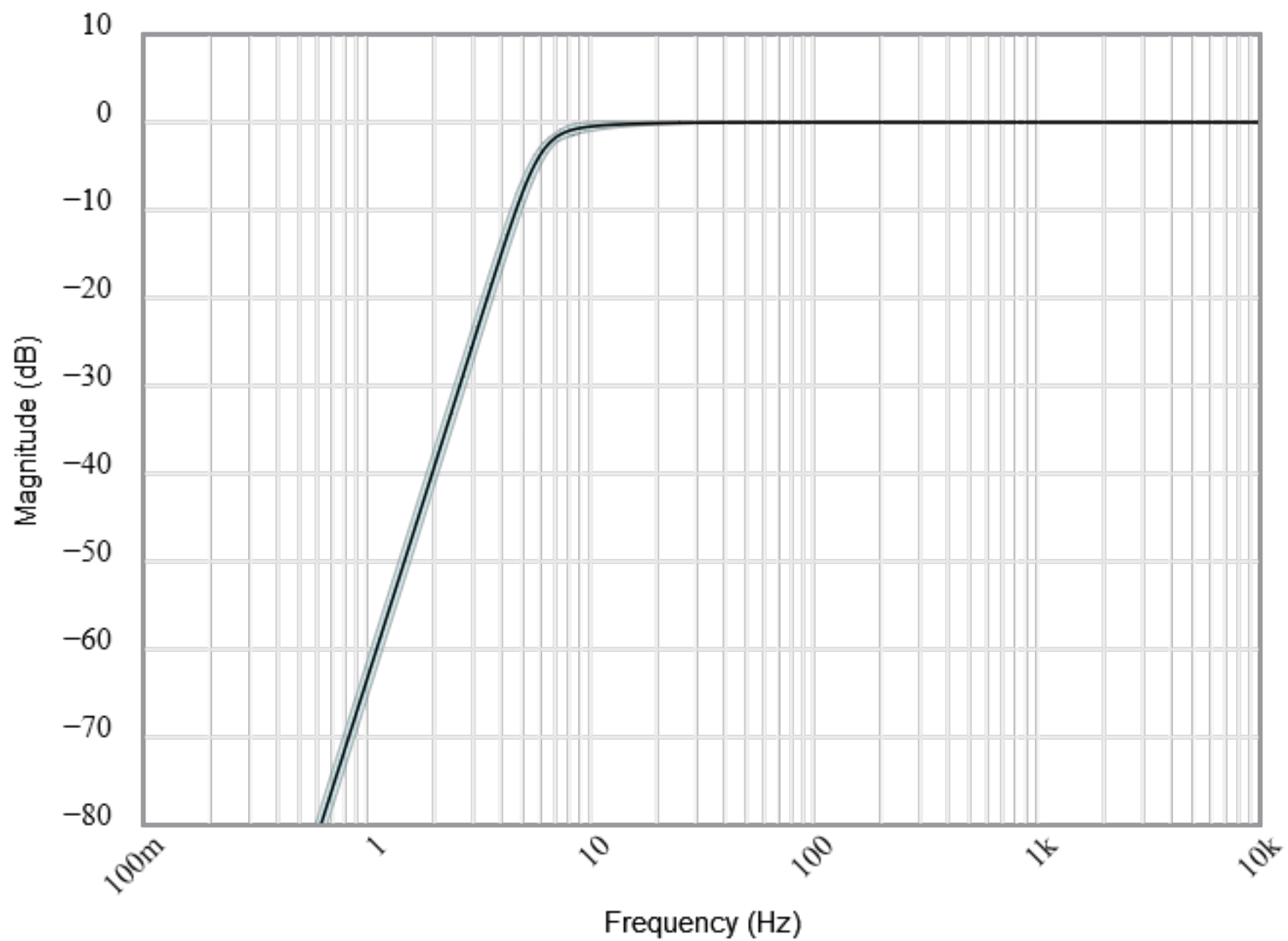
Passband: -0.1dB at 10Hz

Stopband: -60dB at 1Hz

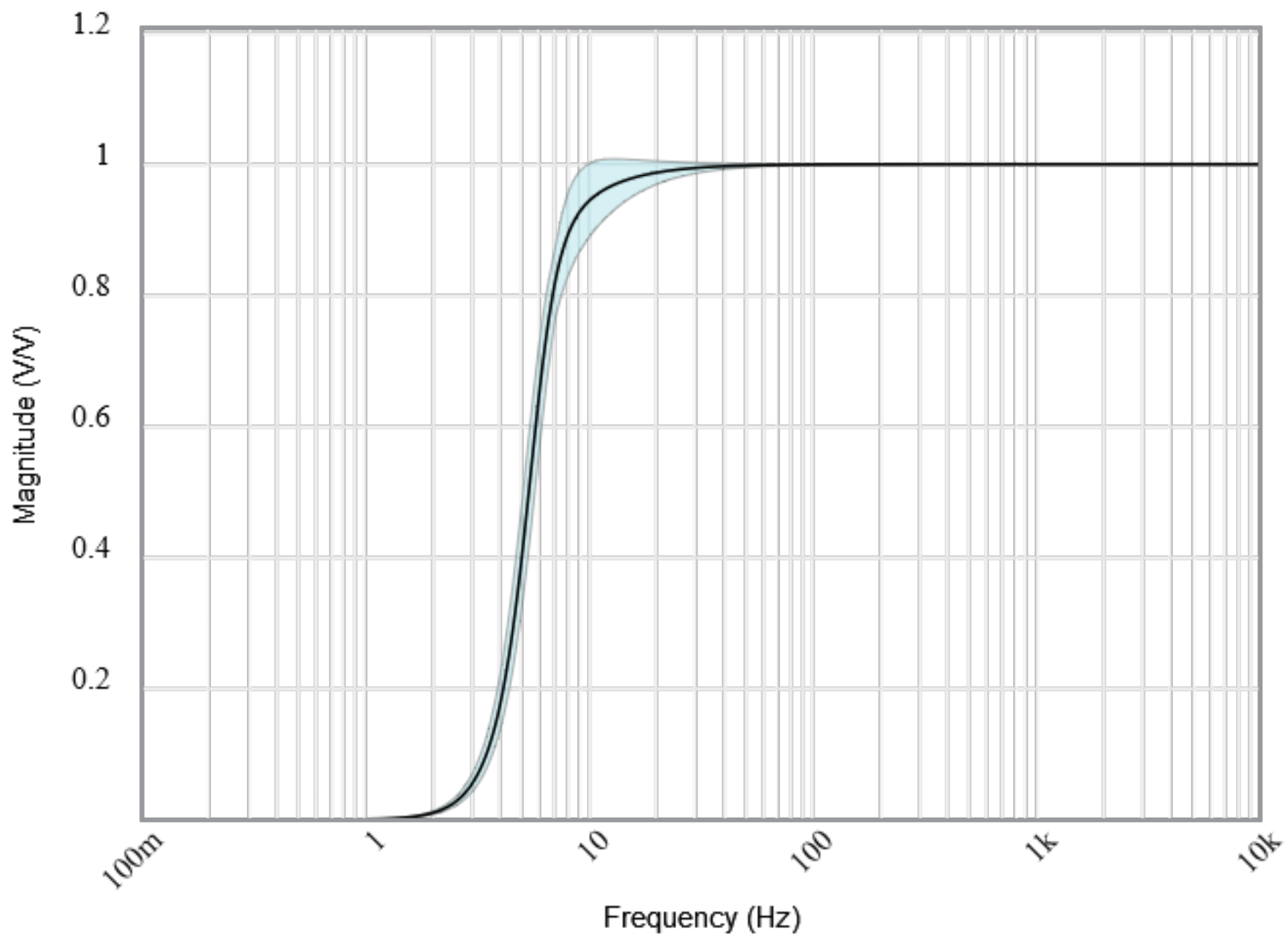
Component Tolerances: Capacitor = 5%; Resistor = 1%; Inductor = 5%; Op Amp GBW = 20%

BOM: refer to BOM.csv file

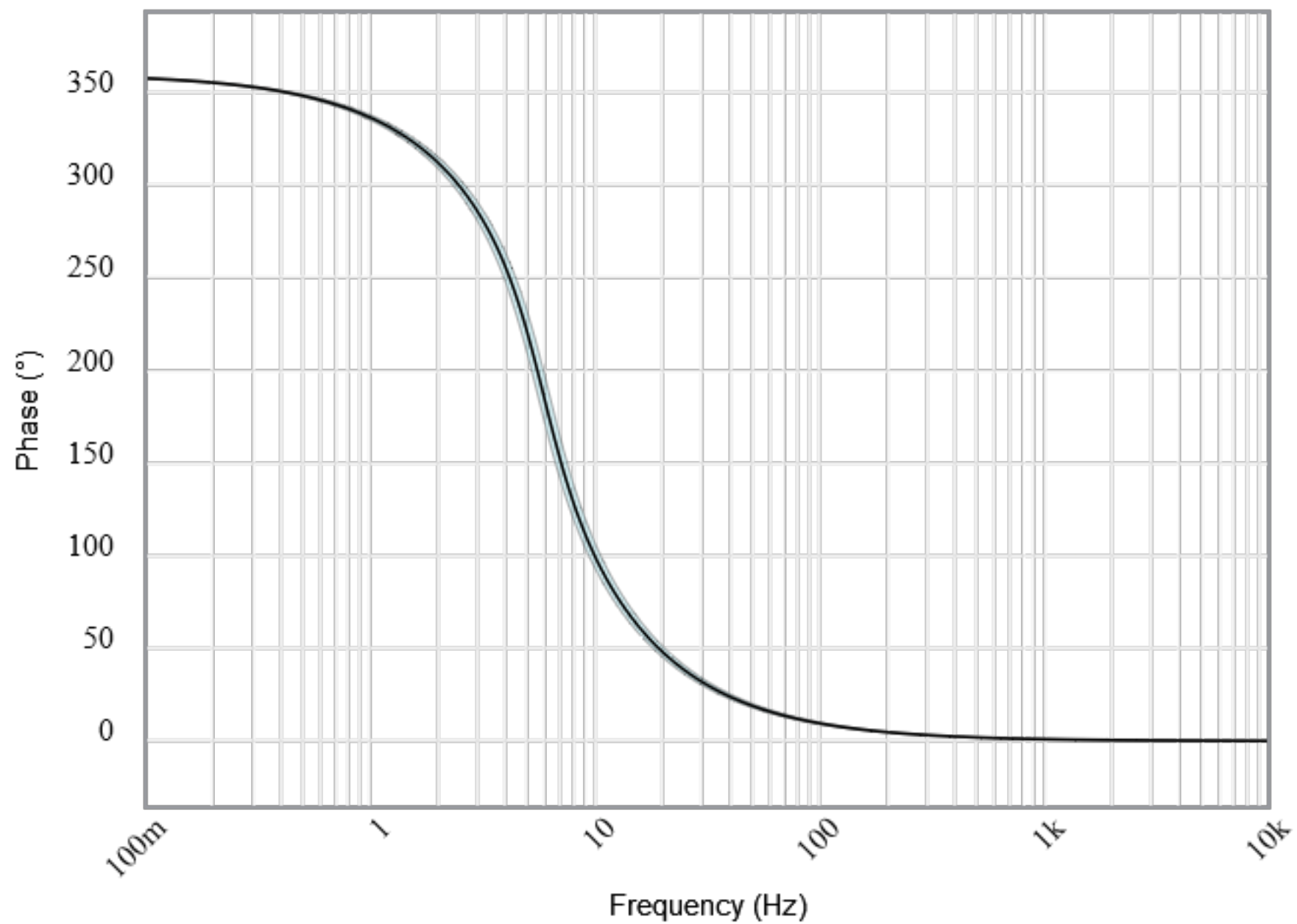
Magnitude(dB)



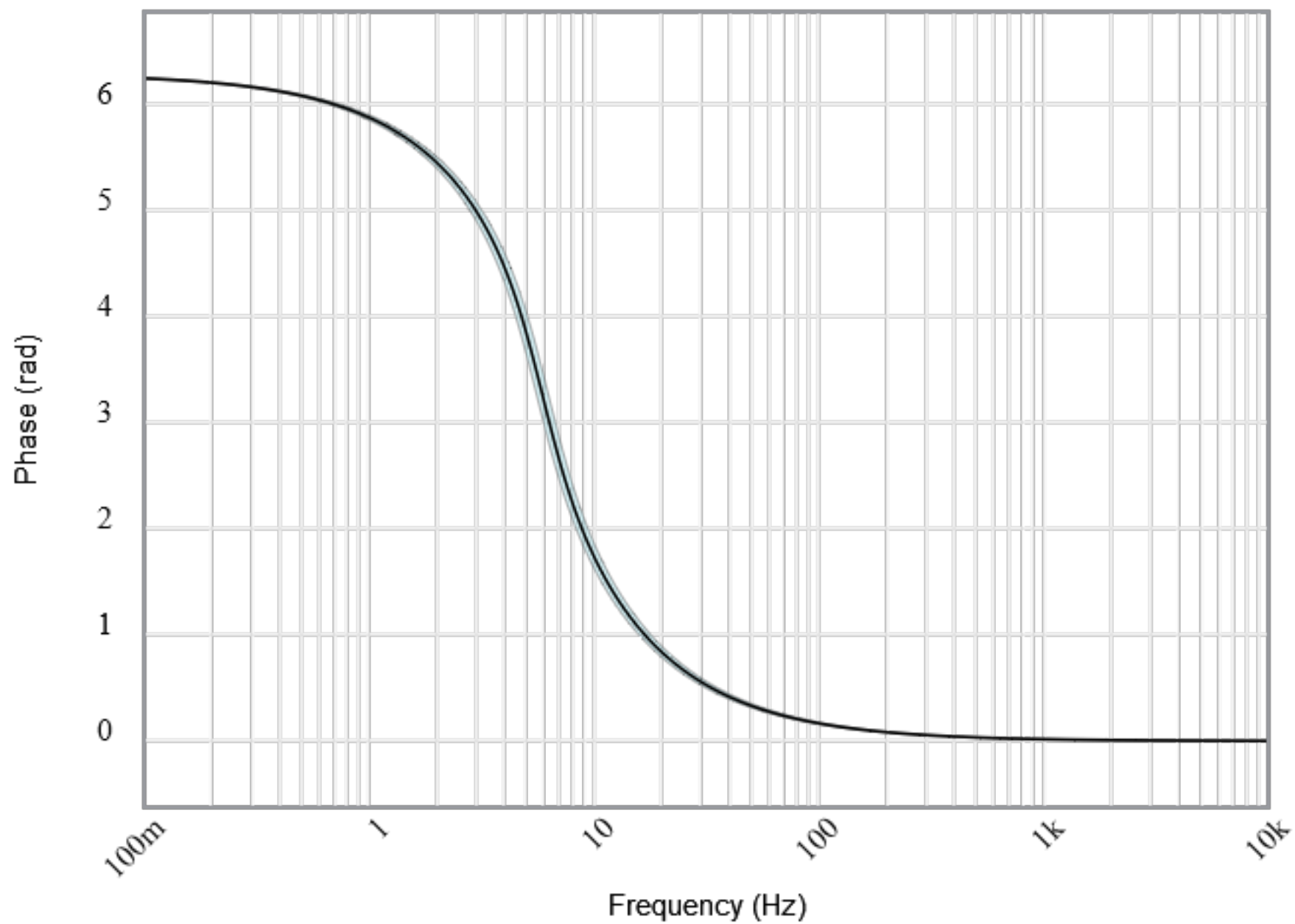
Magnitude(Volts per Volt)



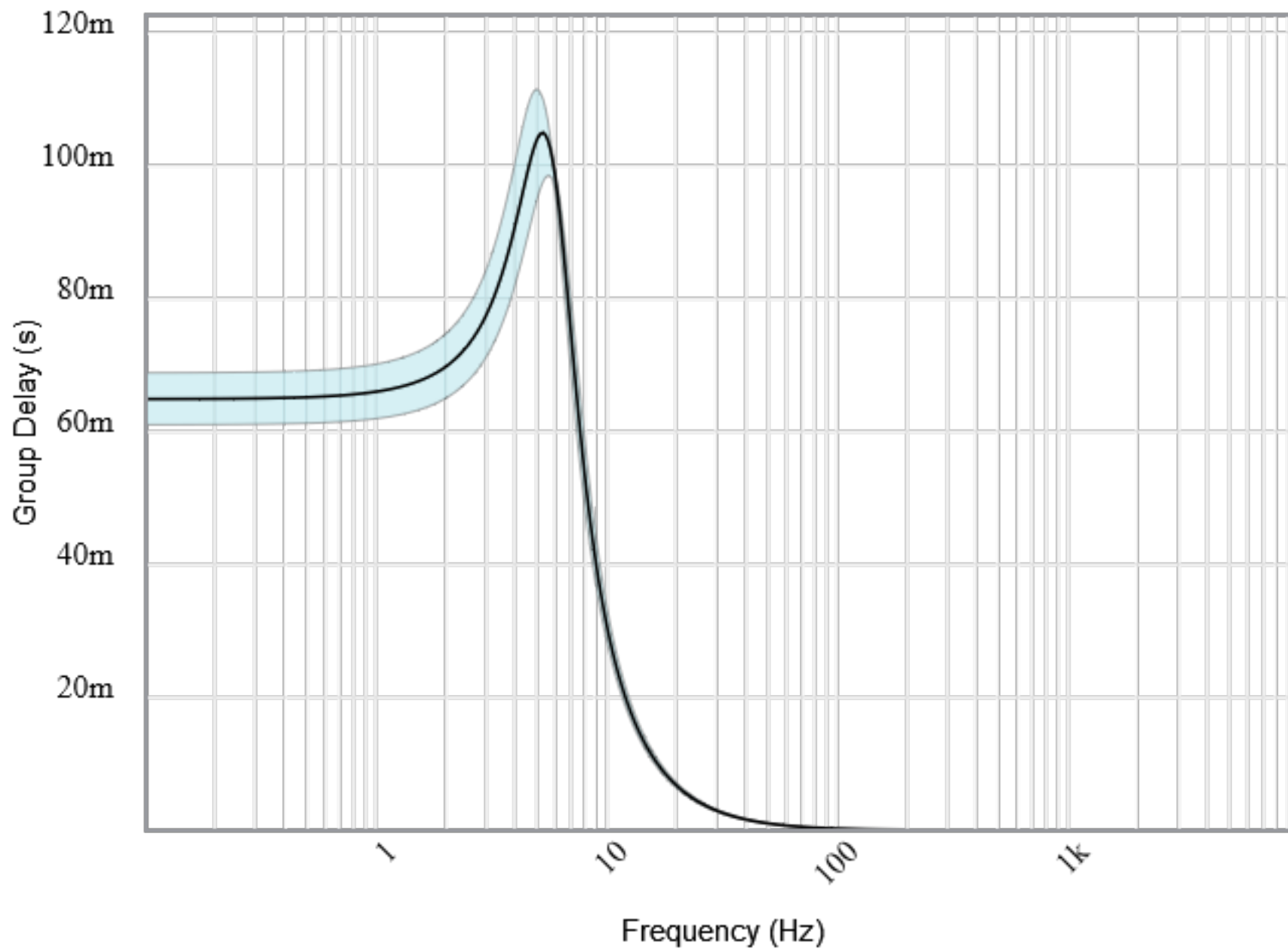
Phase(degrees)



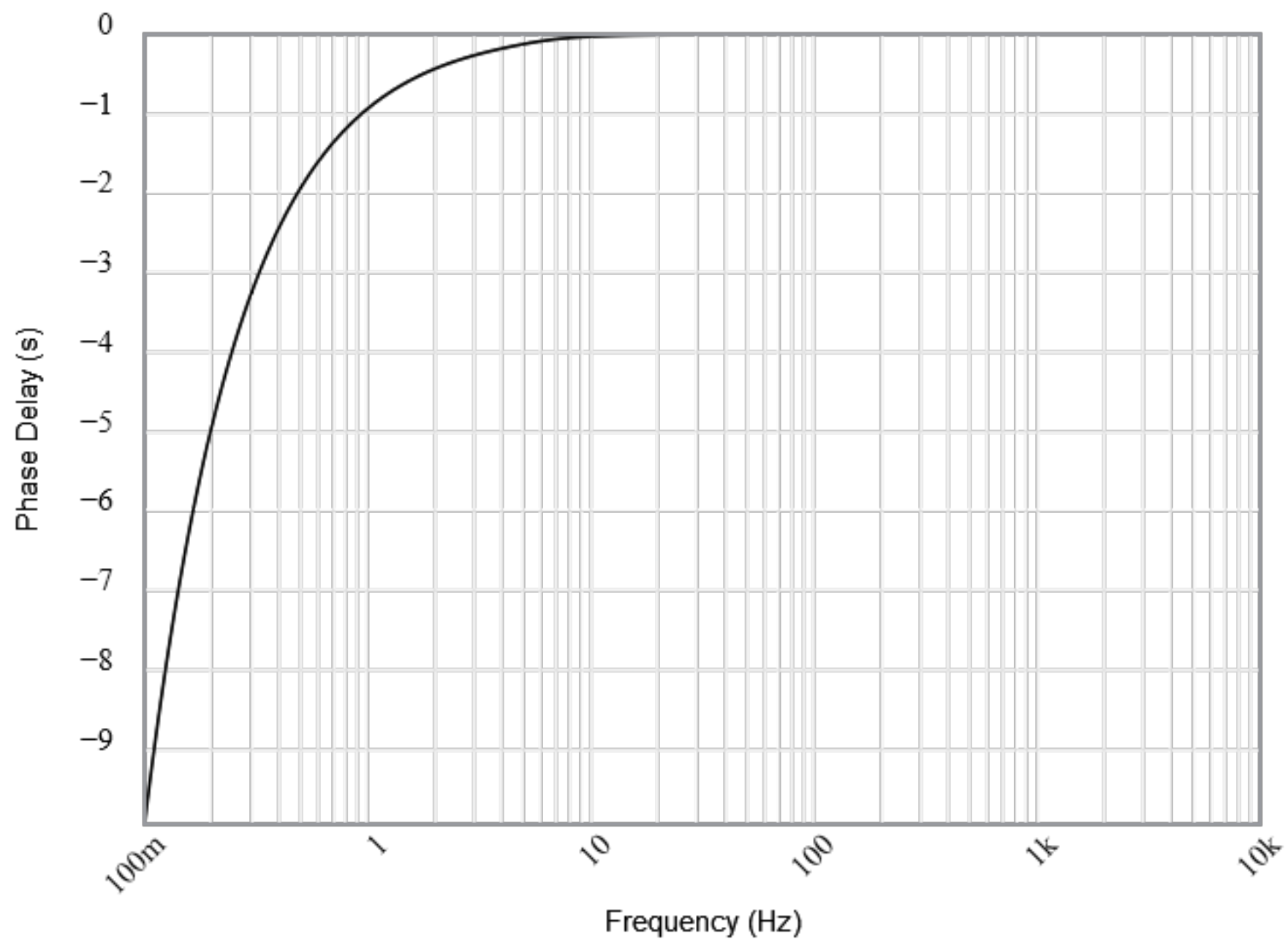
Phase(radians)



Group Delay

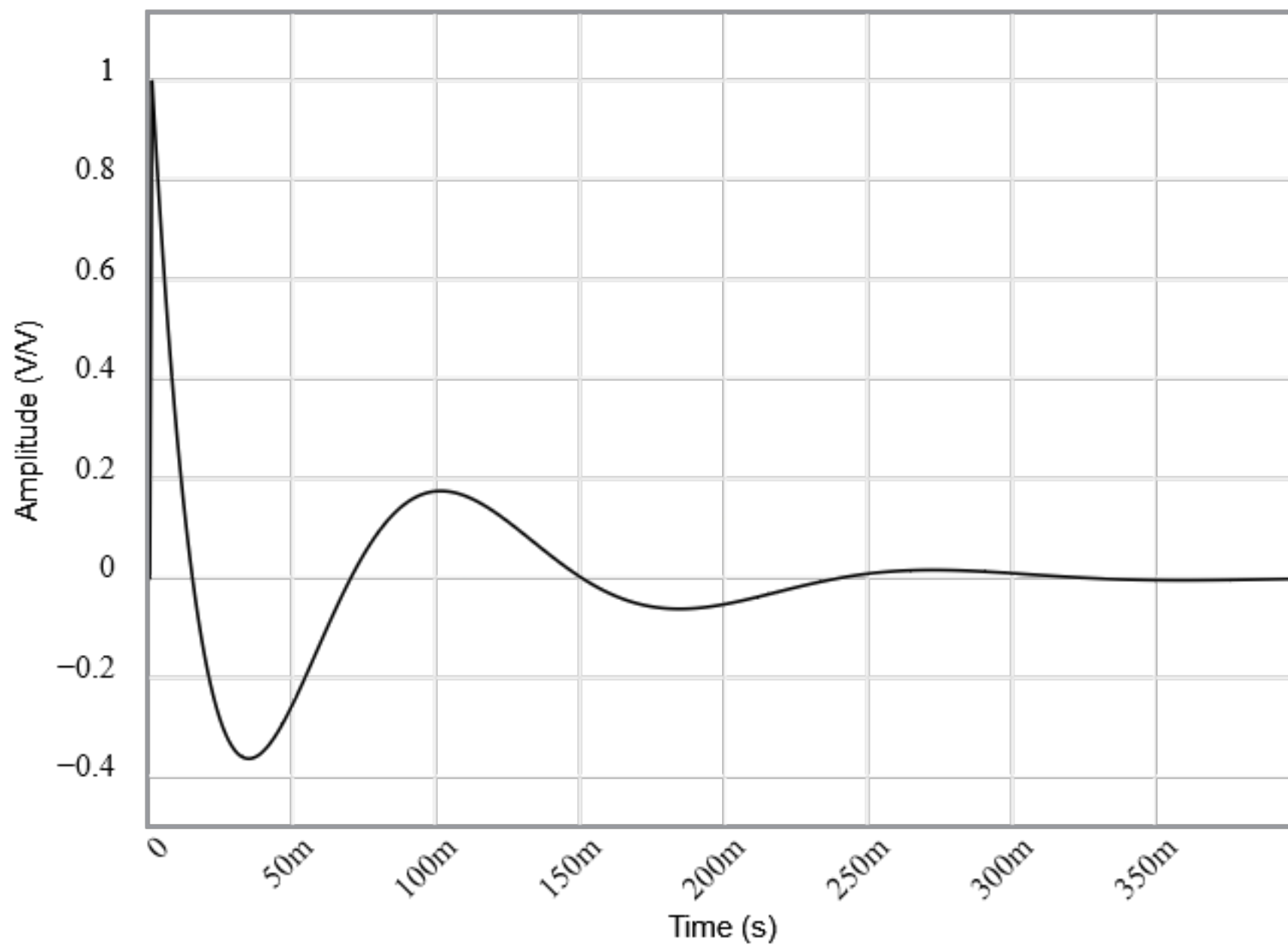


# Phase Delay

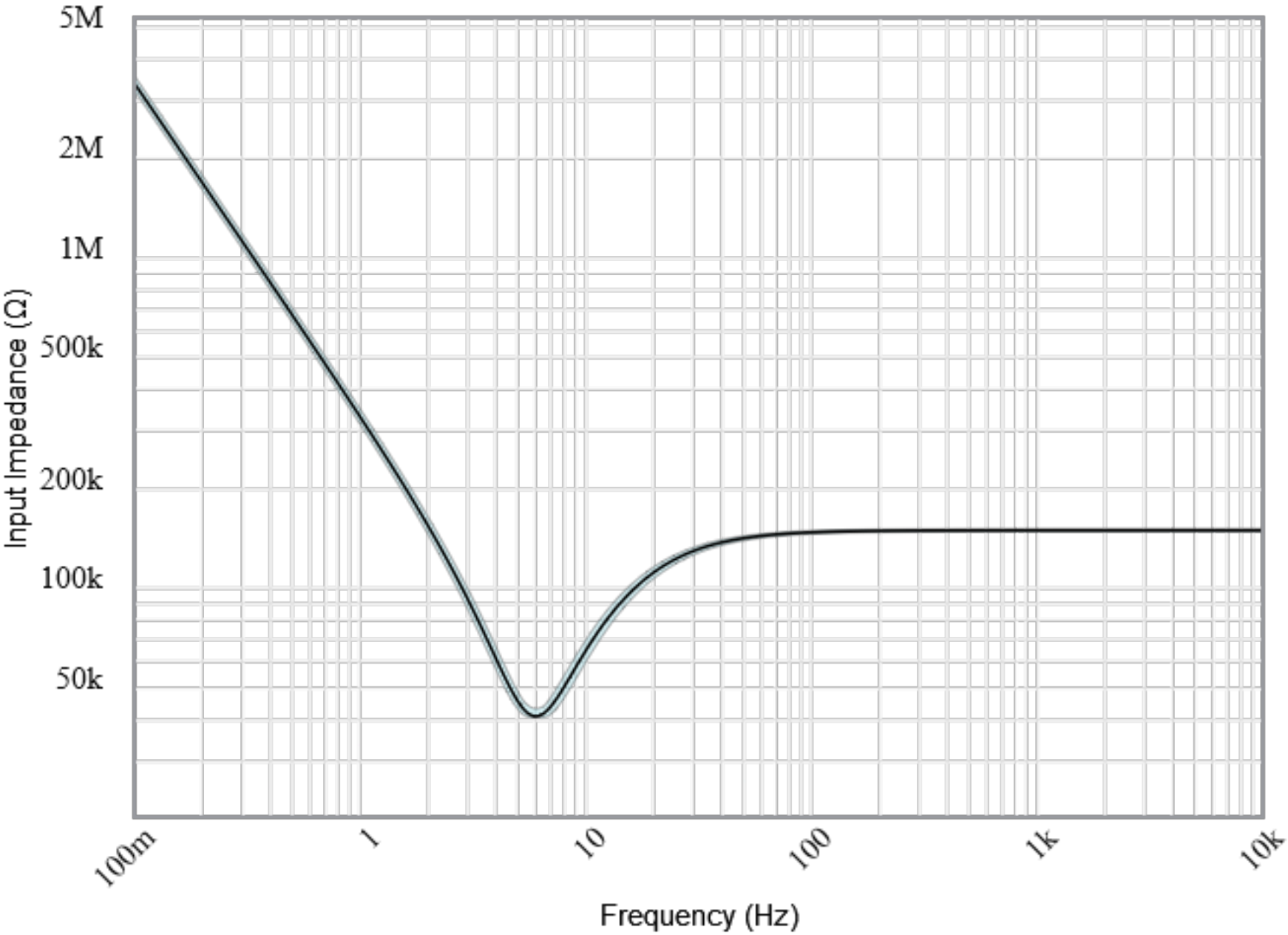




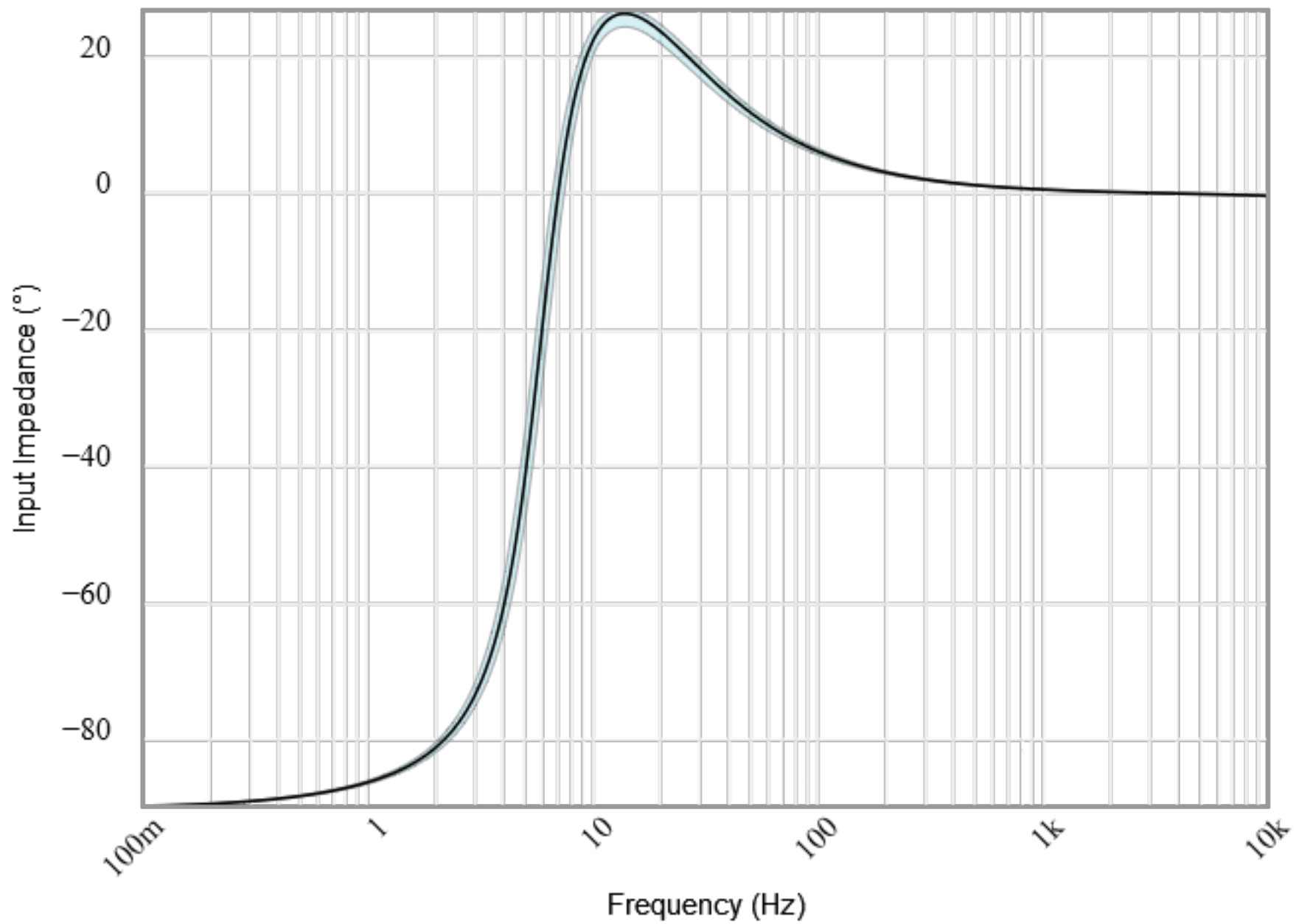
Step Response



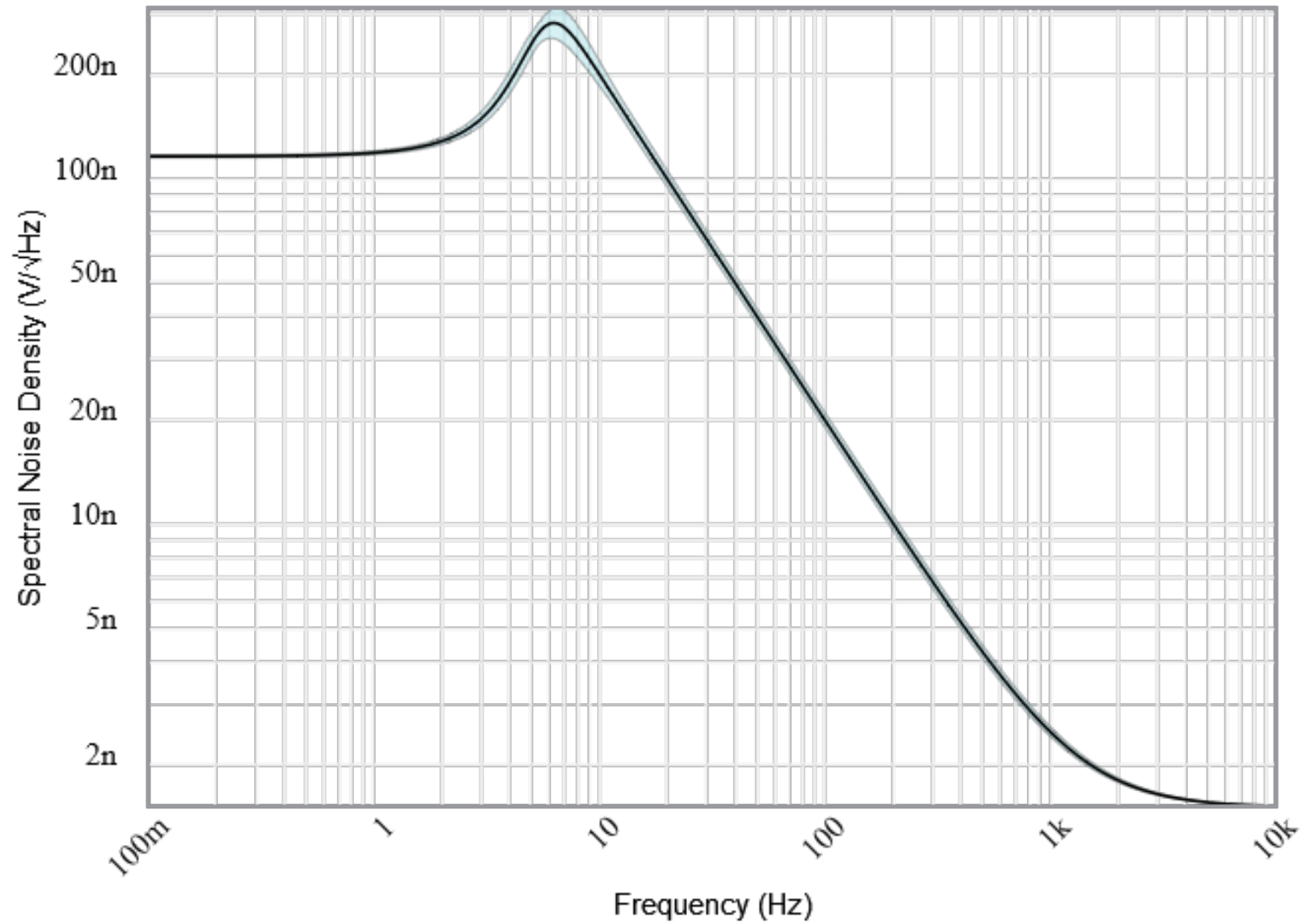
Input Impedance Magnitude



Input Impedance Phase



# Noise



## Stages

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



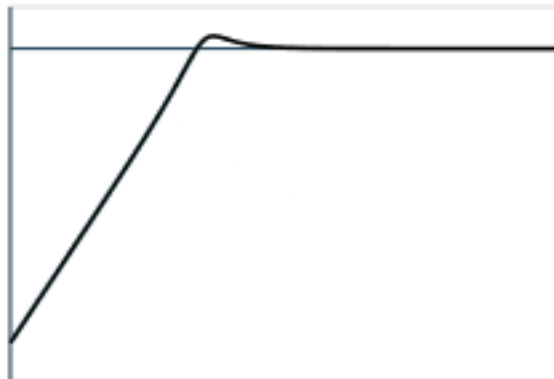
**2nd order  
High-Pass  
Sallen Key**

	Target	Simulated
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Gain (V/V):	1	1 to 1
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$f_p$ (Hz):	6.25	5.56 to 6.27
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Q:	1.31	1.29 to 1.32
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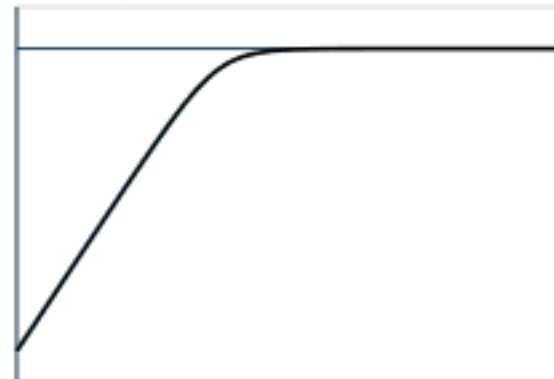
**2nd order  
High-Pass  
Sallen Key**

	Target	Simulated
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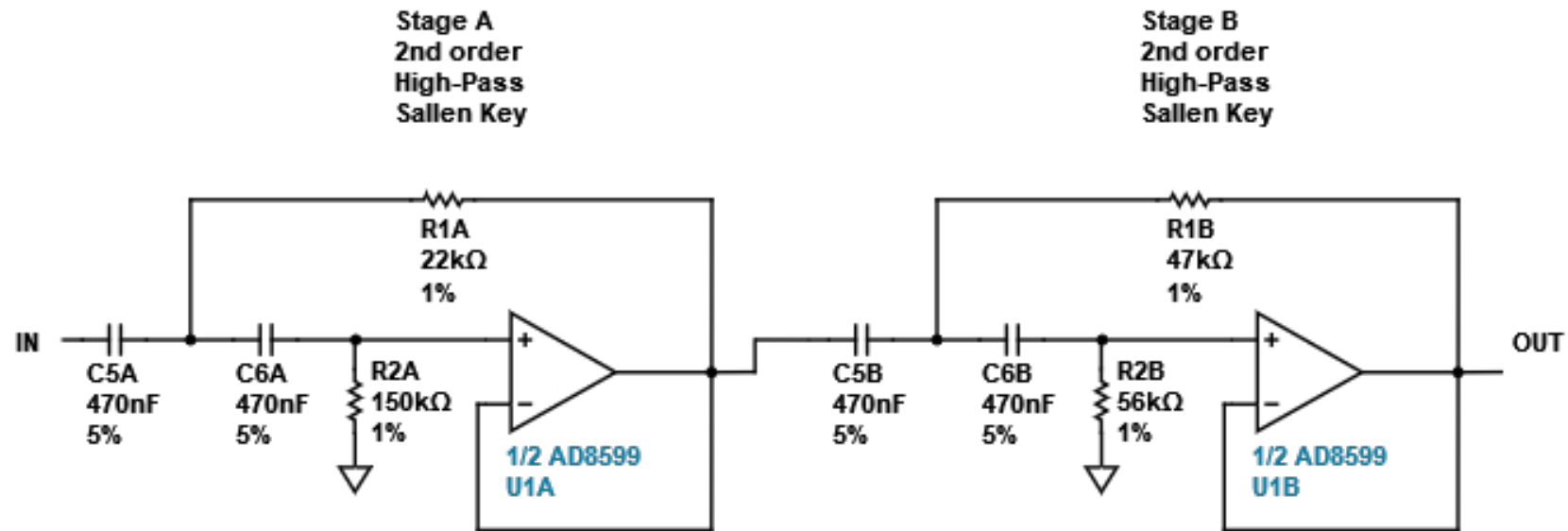
Gain (V/V):	1	1 to 1
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$f_p$ (Hz):	6.25	6.23 to 7.02
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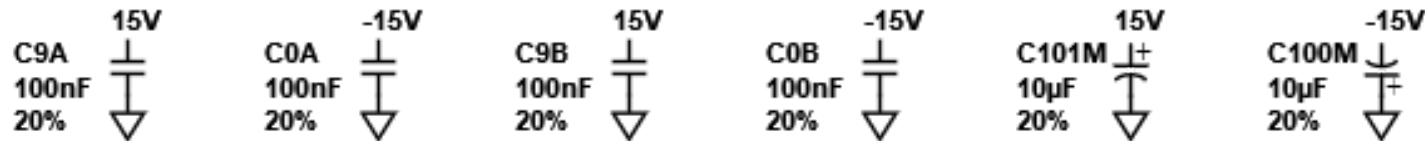
Q:	541m	540m to 551m
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## Circuit



### BYPASS CAPACITORS



### SPARES Why The Spares?

