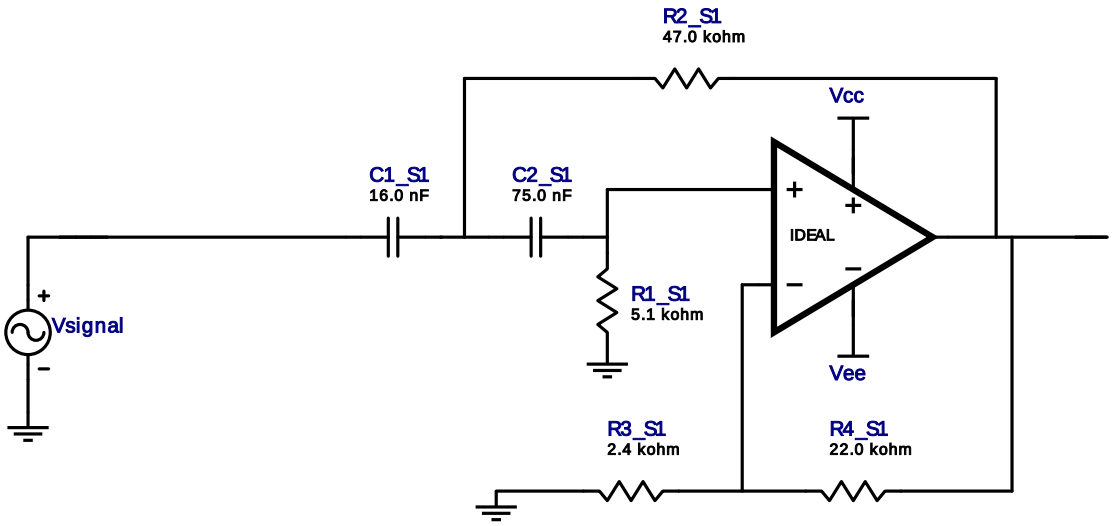
Type : Highpass
Response : Butterworth
Order : 2
Number of Stages : 1

Filter Design Report

Design : Highpass Filter - 2nd order Butterworth
Design ID: 11

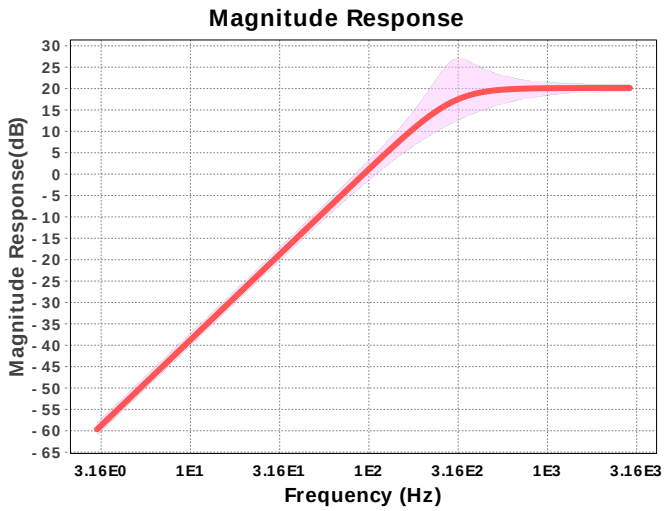


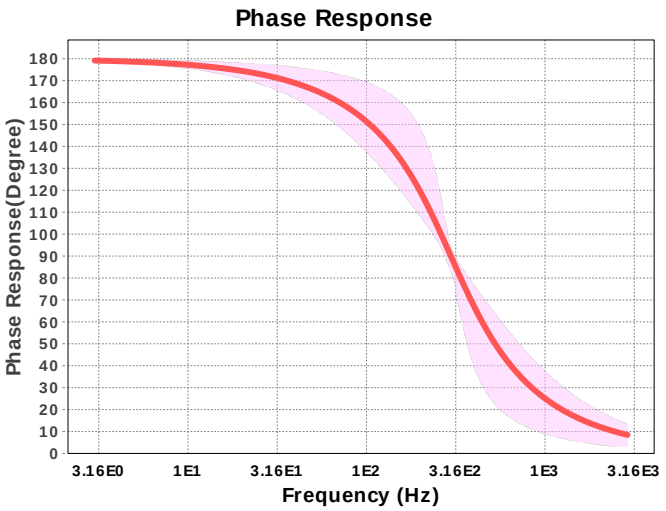
Electrical BOM

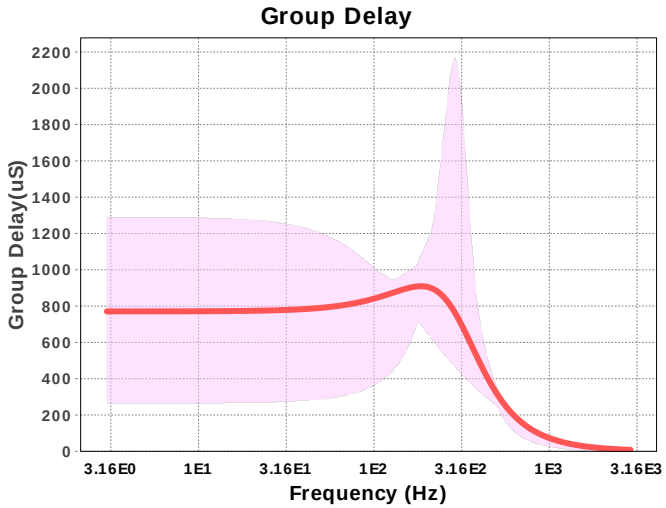
#	Name	Manufacturer	Part Number	Properties	Qty
1.	A1_S1	Texas Instruments Inc.	IDEAL	GbwTyp= 0MHz VccMax= 0V VccMin= 0V	1
2.	C1_S1	Generic	Ideal	Cap= 16.0 nF Tolerance= 5.0 %	1
3.	C2_S1	Generic	Ideal	Cap= 75.0 nF Tolerance= 5.0 %	1
4.	R1_S1	Generic	Ideal	Res= 5100.0ohm Tolerance= 5%	1
5.	R2_S1	Generic	Ideal	Res= 47000.0ohm Tolerance= 5%	1
6.	R3_S1	Generic	Ideal	Res= 2400.0ohm Tolerance= 5%	1
7.	R4_S1	Generic	Ideal	Res= 22000.0ohm Tolerance= 5%	1

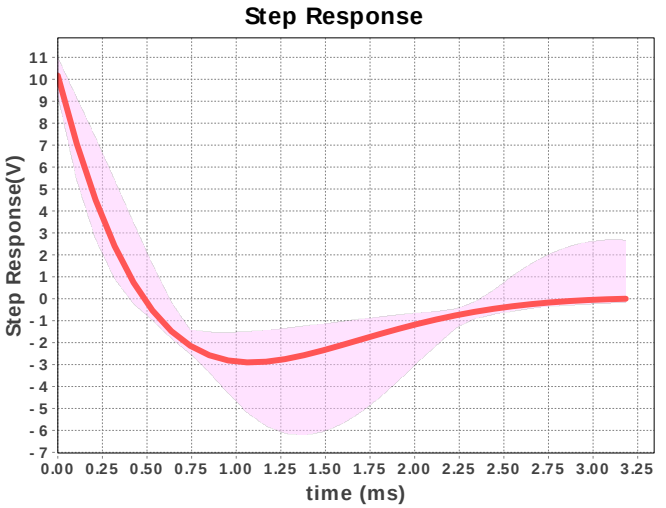
Sensitivity Analysis

#	Name	Series	Tolerance
1.	Cap	E24	5%
2.	Res	E24	5%









Design Inputs

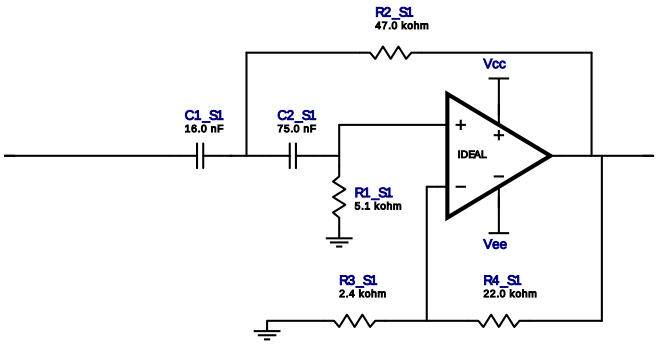
#	Name	Value	Description
1.	FilterType	highpass	
2.	FilterResponse	Butterworth	
3.	FilterOrder	2.0	
4.	FilterTopology	Sallen-Key	
5.	NumberOfStages	1.0	
6.	PassbandFrequency	300.0	
7.	StopbandAttenuation	-40.001	
8.	StopbandFrequency	30.0	
9.	Gain	10.0	
10.	DualSupply	+/-12.00 V	Power supply(s) to active chips
11.	ResistorTolerance	E24	Resistor series - 5% Passive resistor tolerance
12.	CapacitorTolerance	E24	Capacitor series - 5% Passive capacitor tolerance

Design Assistance

1. **IDEAL** Product Folder : http://www.ti.com/product/IDEAL : contains the data sheet and other resources.

Filter Stage :1

Cutoff Frequency	296.753 Hz
Min GBW Reqd	212.134 kHz
Stage Gain	10.167 V/V
Stage Q	695.843 m
Stage Topology	Sallen-Key



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6.	R3_S1	Generic	Ideal	Res= 2400.0ohm Tolerance= 5%	1

#	Name	Manufacturer	Part Number	Properties	Qty
7.	R4_S1	Generic	Ideal	Res= 22000.0ohm Tolerance= 5%	1