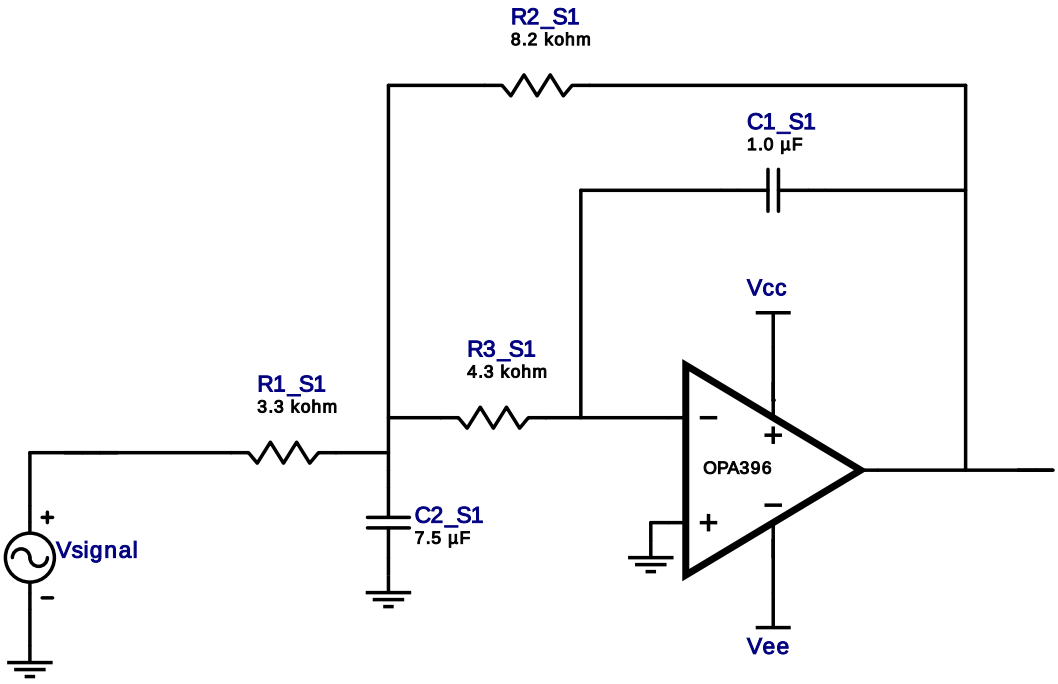
Type : Lowpass
Response : Butterworth
Order : 2
Number of Stages : 1

Filter Design Report

Design : Lowpass Filter - 2nd order Butterworth
Design ID: 7

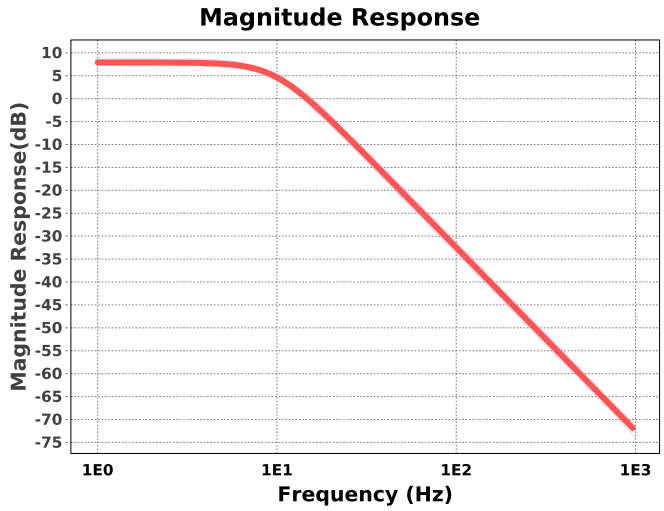


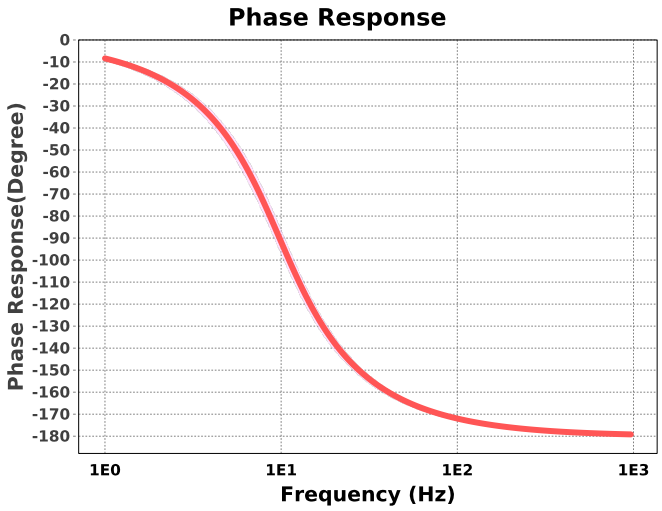
Electrical BOM

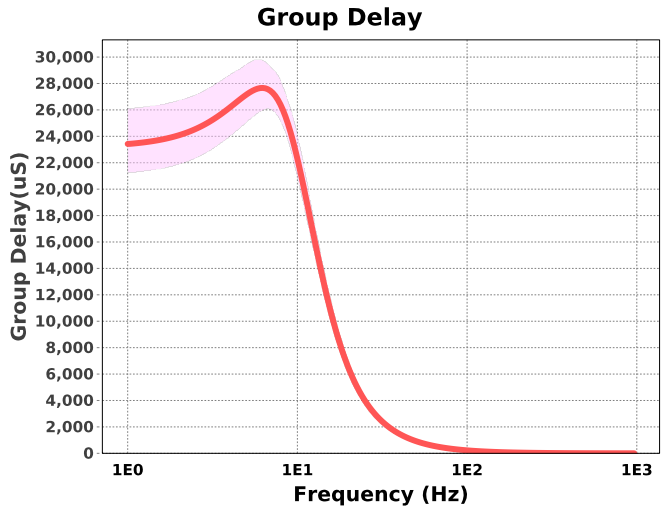
#	Name	Manufacturer	Part Number	Properties	Qty
1.	A1_S1	Texas Instruments Inc.	OPA396	GbwTyp= 1MHz VccMax= 5.5V VccMin= 1.7V	1
2.	C1_S1	Generic	Ideal	Cap= 1.0 uF Tolerance= 5.0 %	1
3.	C2_S1	Generic	Ideal	Cap= 7.5 uF Tolerance= 5.0 %	1
4.	R1_S1	Generic	Ideal	Res= 3300.0ohm Tolerance= 5%	1
5.	R2_S1	Generic	Ideal	Res= 8200.0ohm Tolerance= 5%	1
6.	R3_S1	Generic	Ideal	Res= 4300.0ohm Tolerance= 5%	1

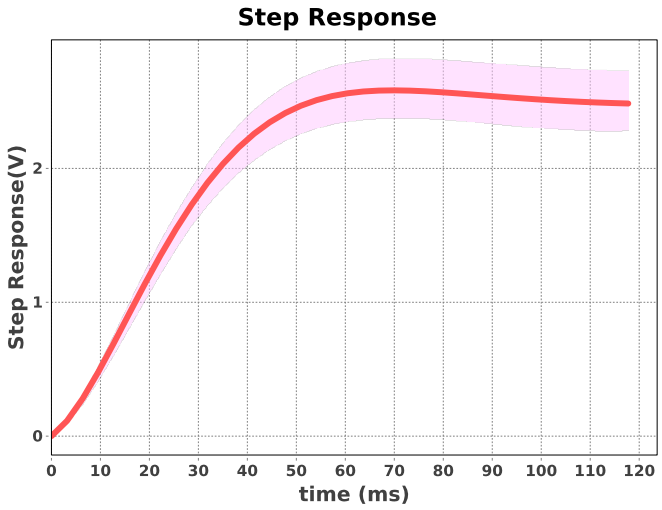
Sensitivity Analysis

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









Design Inputs

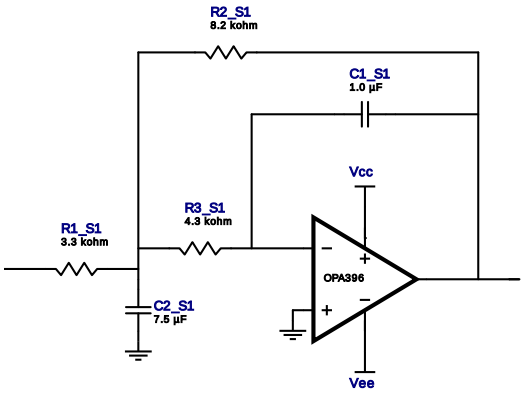
#	Name	Value	Description
1.	FilterType	lowpass	
2.	FilterResponse	Butterworth	
3.	FilterOrder	2.0	
4.	FilterTopology	Multiple Feedback	
5.	NumberOfStages	1.0	
6.	PassbandFrequency	10.0	
7.	StopbandAttenuation	-40.001	
8.	StopbandFrequency	100.0	
9.	Gain	2.5	
10.	SingleSupply	3.3	Power supply(s) to active chips
11.	ResistorTolerance	E24	Resistor series - 5% Passive resistor tolerance
12.	CapacitorTolerance	E24	Capacitor series - 5% Passive capacitor tolerance

Design Assistance

1. **OPA396** Product Folder : http://www.ti.com/product/OPA396 : contains the data sheet and other resources.

Filter Stage :1

Cutoff Frequency	9.787 Hz
Min GBW Reqd	1.768 kHz
Stage Gain	2.485 V/V
Stage Q	701.403 m
Stage Topology	Multiple Feedback



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