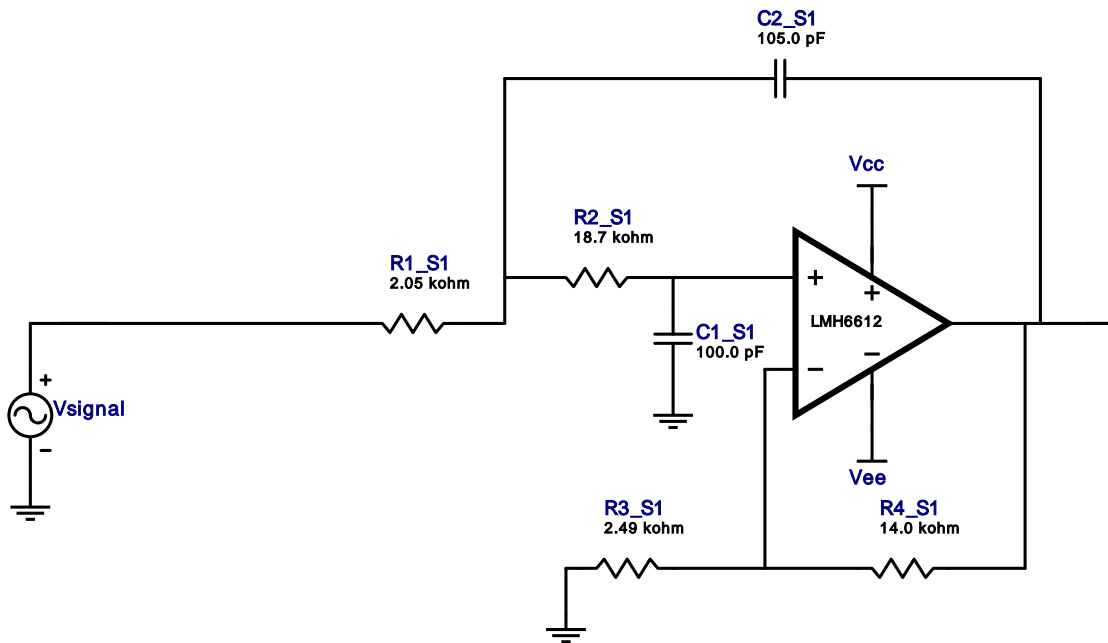


Type : Lowpass  
Response : Butterworth  
Order : 2  
Number of Stages : 1

## Filter Design Report

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

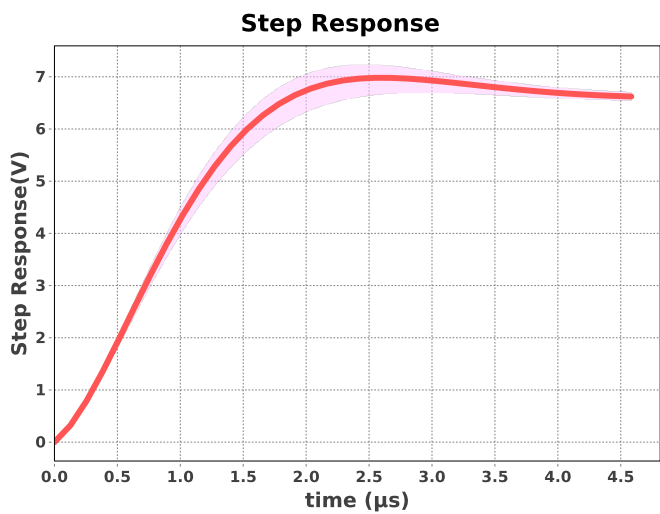
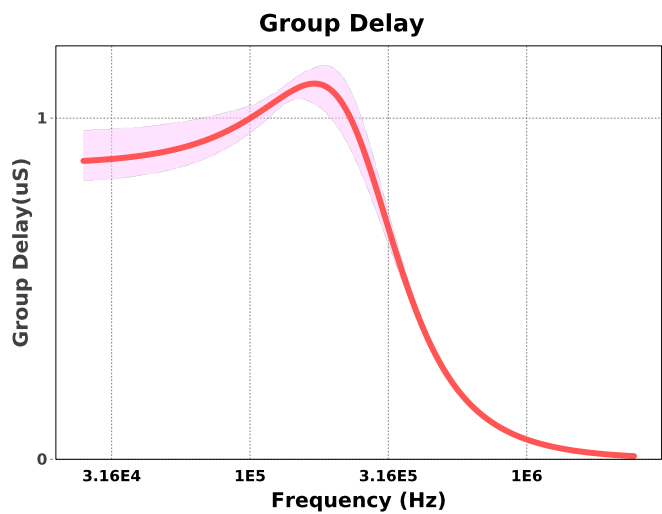
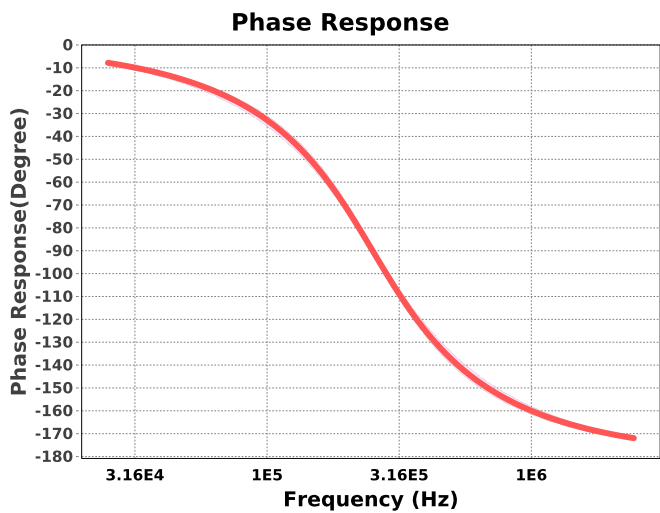
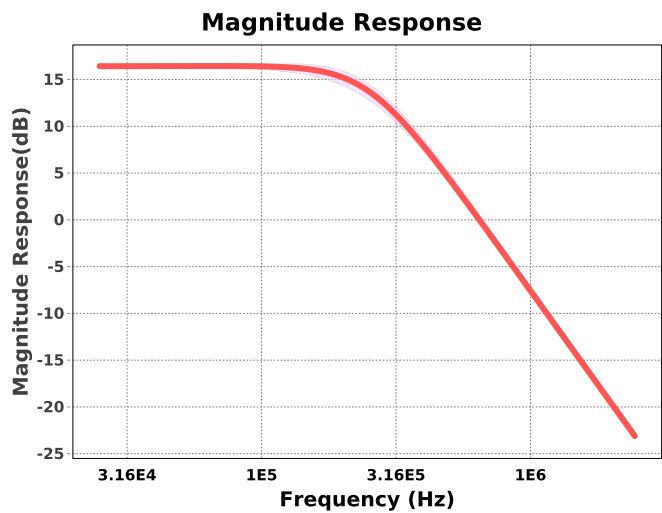


## Electrical BOM

#	Name	Manufacturer	Part Number	Properties	Qty
1.	A1_S1	Texas Instruments Inc.	LMH6612	GbwTyp= 130MHz VccMax= 11V VccMin= 2.7V	1
2.	C1_S1	Generic	Ideal	Cap= 100.0 pF Tolerance= 2.0 %	1
3.	C2_S1	Generic	Ideal	Cap= 105.0 pF Tolerance= 2.0 %	1
4.	R1_S1	Generic	Ideal	Res= 2050.0ohm Tolerance= 1%	1
5.	R2_S1	Generic	Ideal	Res= 18700.0ohm Tolerance= 1%	1
6.	R3_S1	Generic	Ideal	Res= 2490.0ohm Tolerance= 1%	1
7.	R4_S1	Generic	Ideal	Res= 14000.0ohm Tolerance= 1%	1

Sensitivity Analysis

#	Name	Series	Tolerance
1.	Cap	E48	2%
2.	Res	E96	1%



## Design Inputs

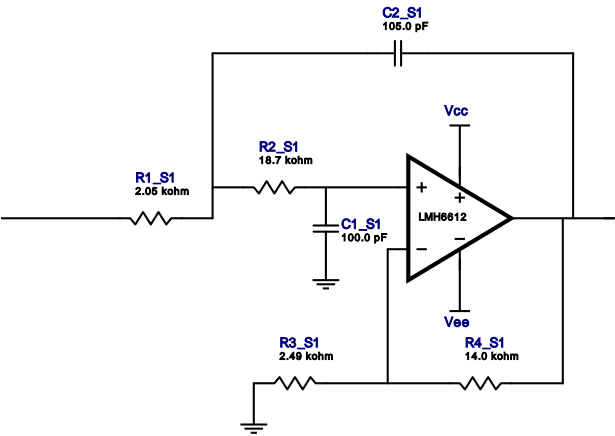
#	Name	Value	Description
1.	FilterType	lowpass	
2.	FilterResponse	Butterworth	
3.	FilterOrder	2.0	
4.	FilterTopology	Sallen-Key	
5.	NumberOfStages	1.0	
6.	PassbandFrequency	250.0 k	
7.	StopbandAttenuation	-40.001	
8.	StopbandFrequency	2.5 M	
9.	Gain	6.6	
10.	DualSupply	+/-5.00 V	Power supply(s) to active chips
11.	ResistorTolerance	E96	Resistor series - 1% Passive resistor tolerance
12.	CapacitorTolerance	E48	Capacitor series - 2% Passive capacitor tolerance

## Design Assistance

1. **LMH6612** Product Folder : <http://www.ti.com/product/LMH6612> : contains the data sheet and other resources.

Filter Stage :1

Cutoff Frequency 250.858 kHz  
Min GBW Reqd 116.671 MHz  
Stage Gain 6.622 V/V  
Stage Q 733.664 m  
Stage Topology Sallen-Key



Electrical BOM

#	Name	Manufacturer	Part Number	Properties	Qty
1.	A1_S1	Texas Instruments Inc.	LMH6612	GbwTyp= 130MHz VccMax= 11V VccMin= 2.7V	1
2.	C1_S1	Generic	Ideal	Cap= 100.0 pF Tolerance= 2.0 %	1
3.	C2_S1	Generic	Ideal	Cap= 105.0 pF Tolerance= 2.0 %	1
4.	R1_S1	Generic	Ideal	Res= 2050.0ohm Tolerance= 1%	1
5.	R2_S1	Generic	Ideal	Res= 18700.0ohm Tolerance= 1%	1
6.	R3_S1	Generic	Ideal	Res= 2490.0ohm Tolerance= 1%	1

#	Name	Manufacturer	Part Number	Properties	Qty
7.	R4_S1	Generic	Ideal	Res= 14000.0ohm Tolerance= 1%	1

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