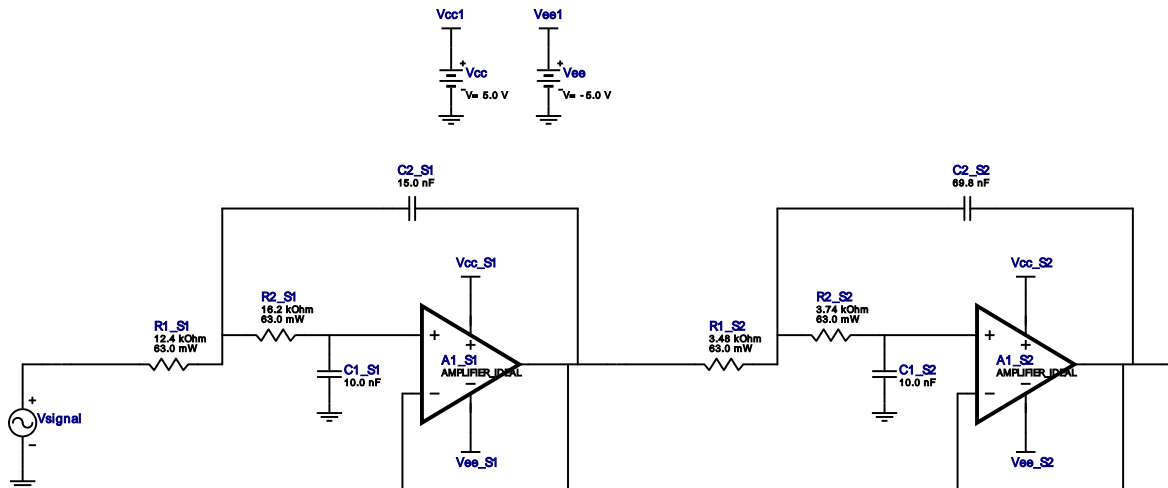


WEBENCH® Design Report

 Design : 4211465/2 AMPLIFIER_IDEAL
 Lowpass, Sallen Key, Gaussian to 6 dB


Electrical BOM

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
1.	A1_S1	Texas Instruments	AMPLIFIER_IDEAL	GbwTyp= 10.0 MMHz VccMin= 0.0 V VccMax= 100.0 V	1	NA	0 mm ²
2.	A1_S2	Texas Instruments	AMPLIFIER_IDEAL	GbwTyp= 10.0 MMHz VccMin= 0.0 V VccMax= 100.0 V	1	NA	0 mm ²
3.	C1_S1	AVX	06033A102FAT2A Series= C0G/NP0	Cap= 10.0 nF VDC= 25.0 V Tolerance= 1.0 %	1	\$0.14	0603 5 mm ²
4.	C1_S2	AVX	06033A102FAT2A Series= C0G/NP0	Cap= 10.0 nF VDC= 25.0 V Tolerance= 1.0 %	1	\$0.14	0603 5 mm ²
5.	C2_S1	Kemet	C0603C153F3GACTU Series= C0G/NP0	Cap= 15.0 nF VDC= 25.0 V Tolerance= 1.0 %	1	\$0.40	0603 5 mm ²
6.	C2_S2	CUSTOM	CUSTOM Series= ?	Cap= 69.8 nF VDC= 0.0 V Tolerance= 0.0 %	1	NA	CUSTOM 0 mm ²
7.	R1_S1	Vishay-Dale	CRCW040212K4FKED Series= CRCW..e3	Res= 12.4 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²
8.	R1_S2	Vishay-Dale	CRCW04023K48FKED Series= CRCW..e3	Res= 3.48 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²
9.	R2_S1	Vishay-Dale	CRCW040216K2FKED Series= CRCW..e3	Res= 16.2 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²
10.	R2_S2	Vishay-Dale	CRCW04023K74FKED Series= CRCW..e3	Res= 3.74 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²

Design Inputs

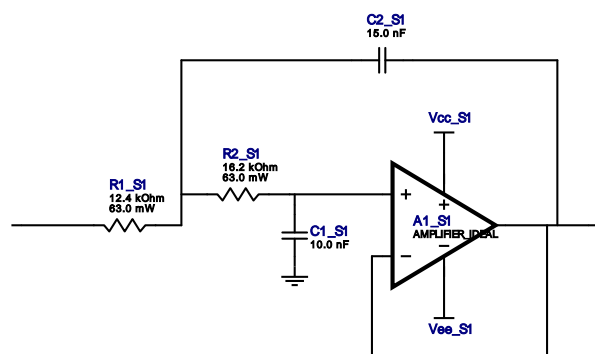
#	Name	Value	Description
1.	FilterType	Lowpass	
2.	FilterResponse	Gaussian_6dB	
3.	FilterOrder	4.0	
4.	FilterTopology	Sallen_Key	
5.	NumberOfStages	2.0	
6.	PassbandFrequency	1,000.0	
7.	StopbandAttenuation	-45.0	
8.	StopbandFrequency	5.0 k	
9.	Gain	1.0	
10.	DualSupply	+/-5.0 V	Power supply(s) to active chips
11.	ResistorTolerance	E96	Resistor series - 1% Passive resistor tolerance
12.	CapacitorTolerance	E96	Capacitor series - 1% Passive capacitance tolerance
13.	SeedCapacitance	10.0 n	Seed Capacitance to start design of filter

Design Assistance

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

Filter Stage :1

Cutoff Frequency 940.0 Hz
 Min GBW Req'd 55.46 kHz
 Stage Gain 1.0 V/V
 Stage Q 590.0 m
 Stage Topology Sallen_Key

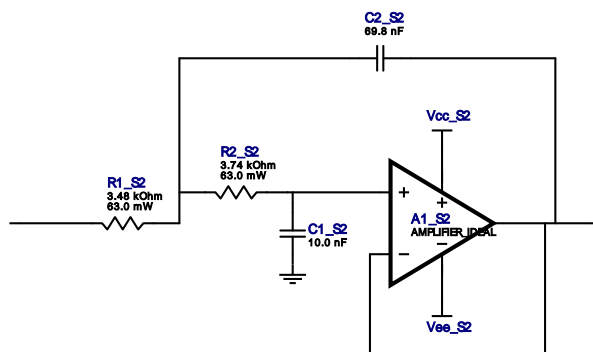


Electrical BOM

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
1.	A1_S1	Texas Instruments	AMPLIFIER_IDEAL	GbwTyp= 10.0 MMHz VccMin= 0.0 V VccMax= 100.0 V	1	NA	0 mm ²
2.	C1_S1	AVX	06033A102FAT2A Series= C0G/NP0	Cap= 10.0 nF VDC= 25.0 V Tolerance= 1.0 %	1	\$0.14	0603 5 mm ²
3.	C2_S1	Kemet	C0603C153F3GACTU Series= C0G/NP0	Cap= 15.0 nF VDC= 25.0 V Tolerance= 1.0 %	1	\$0.40	0603 5 mm ²
4.	R1_S1	Vishay-Dale	CRCW040212K4FKED Series= CRCW..e3	Res= 12.4 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²
5.	R2_S1	Vishay-Dale	CRCW040216K2FKED Series= CRCW..e3	Res= 16.2 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²

Filter Stage :2

Cutoff Frequency	1.665 kHz
Min GBW Req'd	219.78 kHz
Stage Gain	1.0 V/V
Stage Q	1.32
Stage Topology	Sallen_Key



Electrical BOM

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
1.	A1_S2	Texas Instruments	AMPLIFIER_IDEAL	GbwTyp= 10.0 MMHz VccMin= 0.0 V VccMax= 100.0 V	1	NA	0 mm ²
2.	C1_S2	AVX	06033A102FAT2A Series= C0G/NP0	Cap= 10.0 nF VDC= 25.0 V Tolerance= 1.0 %	1	\$0.14	0603 5 mm ²
3.	C2_S2	CUSTOM	CUSTOM Series= ?	Cap= 69.8 nF VDC= 0.0 V Tolerance= 0.0 %	1	NA	CUSTOM 0 mm ²
4.	R1_S2	Vishay-Dale	CRCW04023K48FKED Series= CRCW..e3	Res= 3.48 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²
5.	R2_S2	Vishay-Dale	CRCW04023K74FKED Series= CRCW..e3	Res= 3.74 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²

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