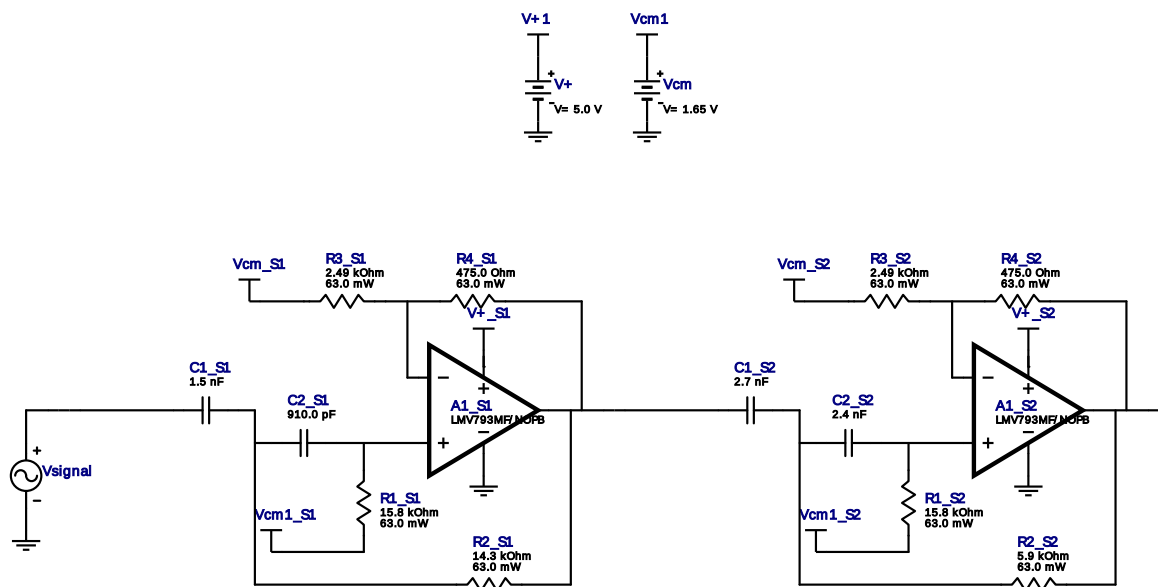


WEBENCH[®] Design Report

Design : 1194016/2198 LMV793MF/NOPB
Highpass, Sallen Key, Linear Phase 0.05deg



My Comments

No comments

Electrical BOM

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
1.	A1_S1	Texas Instruments, Inc.	LMV793MF/NOPB	GbwTyp= 88.0MHz VccMin= 1.8 V VccMax= 5.0 V	1	\$0.51	 DBV0005A 15 mm ²
2.	A1_S2	Texas Instruments, Inc.	LMV793MF/NOPB	GbwTyp= 88.0MHz VccMin= 1.8 V VccMax= 5.0 V	1	\$0.51	 DBV0005A 15 mm ²
3.	C1_S1	MuRata	GRM1885C1H152JA01D Series= C0G/NP0	Cap= 1.5 nF VDC= 50.0 V Tolerance= 5.0 %	1	\$0.01	 0603 5 mm ²
4.	C1_S2	MuRata	GRM1885C1H272JA01J Series= C0G/NP0	Cap= 2.7 nF VDC= 50.0 V Tolerance= 5.0 %	1	\$0.01	 0603 5 mm ²
5.	C2_S1	MuRata	GRM1555C1E911JA01D Series= C0G/NP0	Cap= 910.0 pF VDC= 25.0 V Tolerance= 5.0 %	1	\$0.02	 0402 3 mm ²
6.	C2_S2	MuRata	GRM1885C1H242JA01D Series= C0G/NP0	Cap= 2.4 nF VDC= 50.0 V Tolerance= 5.0 %	1	\$0.01	 0603 5 mm ²
7.	R1_S1	Vishay-Dale	CRCW040215K8FKED Series= CRCW..e3	Res= 15.8 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm ²
8.	R1_S2	Vishay-Dale	CRCW040215K8FKED Series= CRCW..e3	Res= 15.8 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm ²
9.	R2_S1	Vishay-Dale	CRCW040214K3FKED Series= CRCW..e3	Res= 14.3 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm ²

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
10.	R2_S2	Vishay-Dale	CRCW04025K90FKED Series= CRCW..e3	Res= 5.9 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²
11.	R3_S1	Vishay-Dale	CRCW04022K49FKED Series= CRCW..e3	Res= 2.49 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²
12.	R3_S2	Vishay-Dale	CRCW04022K49FKED Series= CRCW..e3	Res= 2.49 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²
13.	R4_S1	Vishay-Dale	CRCW0402475RFKED Series= CRCW..e3	Res= 475.0 Ohm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²
14.	R4_S2	Vishay-Dale	CRCW0402475RFKED Series= CRCW..e3	Res= 475.0 Ohm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	0402 3 mm ²

Design Inputs

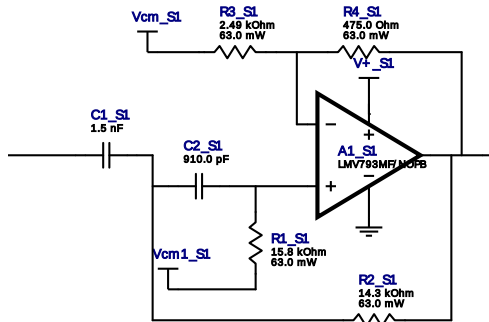
#	Name	Value	Description
1.	FilterType	Highpass	
2.	FilterResponse	Linear_Phase_005	
3.	FilterOrder	4.0	
4.	FilterTopology	Sallen_Key	
5.	NumberOfStages	2.0	
6.	PassbandFrequency	10.0 k	
7.	StopbandAttenuation	-45.0	
8.	StopbandFrequency	2.0 k	
9.	Gain	1.413	
10.	SingleSupply	3.3	Power supply(s) to active chips
11.	ResistorTolerance	E96	Resistor series - 1% Passive resistor tolerance
12.	CapacitorTolerance	E24	Capacitor series - 5% Passive capacitance tolerance
13.	SeedCapacitance	1.0 n	Seed Capacitance to start design of filter

Design Assistance

1. **LMV793MF/NOPB** Product Folder : <http://www.ti.com//product/LMV793> : contains the data sheet and other resources.

Filter Stage :1

Cutoff Frequency 9.302 kHz
 Min GBW Req'd 619.386 kHz
 Stage Gain 1.189 V/V
 Stage Q 560.0 m
 Stage Topology Sallen_Key

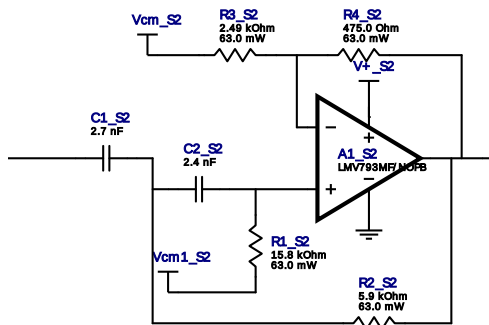


Electrical BOM

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
1.	A1_S1	Texas Instruments, Inc.	LMV793MF/NOPB	GbwTyp= 88.0MHz VccMin= 1.8 V VccMax= 5.0 V	1	\$0.51	 DBV0005A 15 mm ²
2.	C1_S1	MuRata	GRM1885C1H152JA01D Series= C0G/NP0	Cap= 1.5 nF VDC= 50.0 V Tolerance= 5.0 %	1	\$0.01	 0603 5 mm ²
3.	C2_S1	MuRata	GRM1555C1E911JA01D Series= C0G/NP0	Cap= 910.0 pF VDC= 25.0 V Tolerance= 5.0 %	1	\$0.02	 0402 3 mm ²
4.	R1_S1	Vishay-Dale	CRCW040215K8FKED Series= CRCW..e3	Res= 15.8 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm ²
5.	R2_S1	Vishay-Dale	CRCW040214K3FKED Series= CRCW..e3	Res= 14.3 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm ²
6.	R3_S1	Vishay-Dale	CRCW04022K49FKED Series= CRCW..e3	Res= 2.49 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm ²
7.	R4_S1	Vishay-Dale	CRCW0402475RFKED Series= CRCW..e3	Res= 475.0 Ohm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm ²

Filter Stage :2

Cutoff Frequency 6.305 kHz
 Min GBW Req'd 802.163 kHz
 Stage Gain 1.189 V/V
 Stage Q 1.07
 Stage Topology Sallen_Key



Electrical BOM

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
1.	A1_S2	Texas Instruments, Inc.	LMV793MF/NOPB	GbwTyp= 88.0MHz VccMin= 1.8 V VccMax= 5.0 V	1	\$0.51	 DBV0005A 15 mm ²
2.	C1_S2	MuRata	GRM1885C1H272JA01J Series= C0G/NP0	Cap= 2.7 nF VDC= 50.0 V Tolerance= 5.0 %	1	\$0.01	 0603 5 mm ²
3.	C2_S2	MuRata	GRM1885C1H242JA01D Series= C0G/NP0	Cap= 2.4 nF VDC= 50.0 V Tolerance= 5.0 %	1	\$0.01	 0603 5 mm ²
4.	R1_S2	Vishay-Dale	CRCW040215K8FKED Series= CRCW..e3	Res= 15.8 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm ²
5.	R2_S2	Vishay-Dale	CRCW04025K90FKED Series= CRCW..e3	Res= 5.9 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm ²
6.	R3_S2	Vishay-Dale	CRCW04022K49FKED Series= CRCW..e3	Res= 2.49 kOhm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm ²

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
7.	R4_S2	Vishay-Dale	CRCW0402475RFKED Series= CRCW..e3	Res= 475.0 Ohm Power= 63.0 mW Tolerance= 1.0%	1	\$0.01	 0402 3 mm ²

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