Texas Instruments FilterPro

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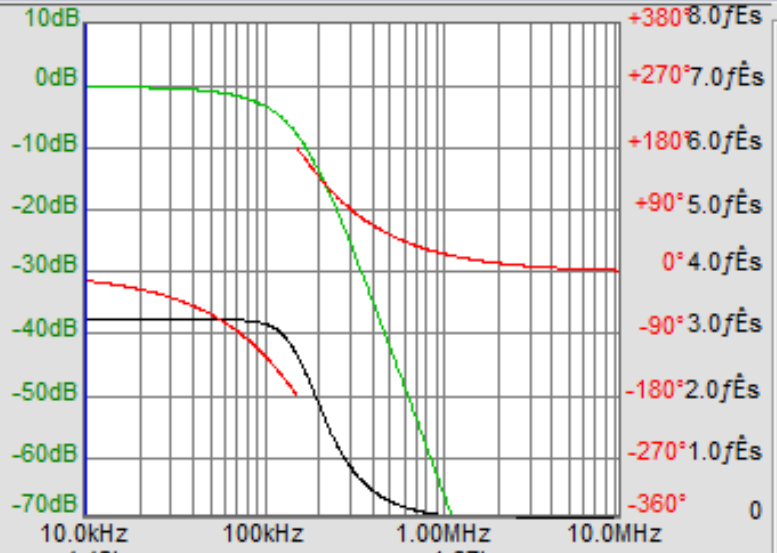
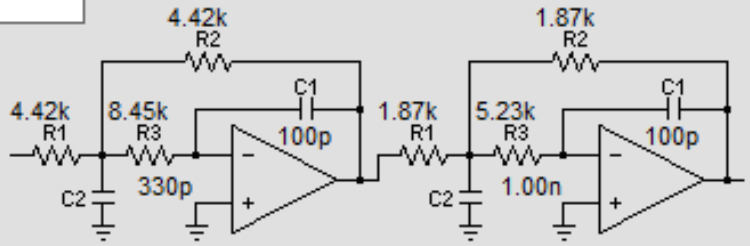
TEXAS INSTRUMENTS

The Bessel (or Thomson) filter has maximum phase flatness through the passband. Its gain response is not as flat as the Butterworth, 'sagging' smoothly through the passband. Attenuation into the stopband is not as steep as the Butterworth for a given number of poles.

The Bessel filter has very little pulse response overshoot because of its linear group delay through the passband.





Section A Section B

Settings

Passband: Low-Pass

Circuit Type: MFB Single-Ended

Filter Type: Bessel Ripple dB

Low-Pass: Poles 4; Cutoff Freq. 100k Hz

Cursor Freq. 10.00k Hz

Value Display: (•) Component Values ( ) Sensitivities

Components: E96 Res. E6 Cap.

Optional Entry

	C1	C2	C3	Gain (V/V)
A	100p	330p		
B	100p	1.00n		
C				
D				
E				
Real				

R1 Seed 10.0k Ohm

	Passband Gain (Vout/Vin)	Fn	Q	Response at 10.0k Hz. Gain	Phase*	Req. GBP
A	1.0	143.02kHz	521.93m	-0.04 dB	-7.7o	7.46MHz
B	1.0	160.34kHz	805.54m	0.01 dB	-4.4o	12.9MHz
	1.0	Totals	420.44m	-0.03 dB	-12.1o	

MFB,4-Pole Low-Pass Bessel: 100kHz Cutoff, Passband Gain of 1.0

* Note: Phase response is not corrected 180° for inverting stages.