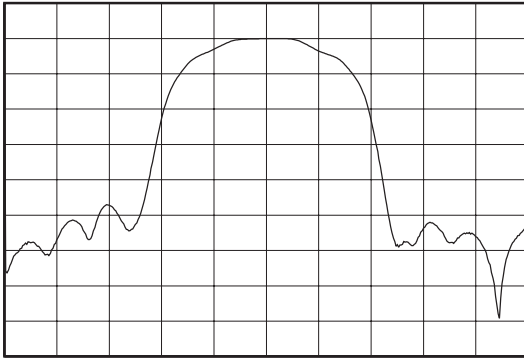
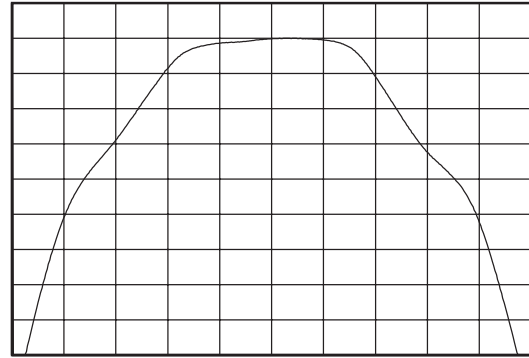


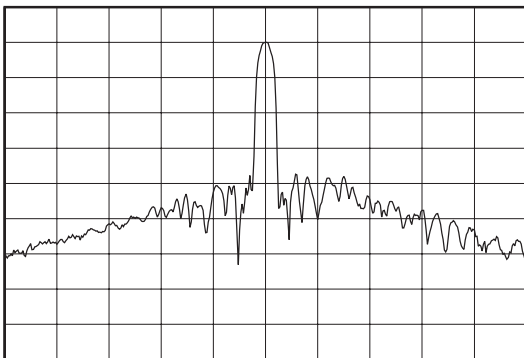
Typical Performance



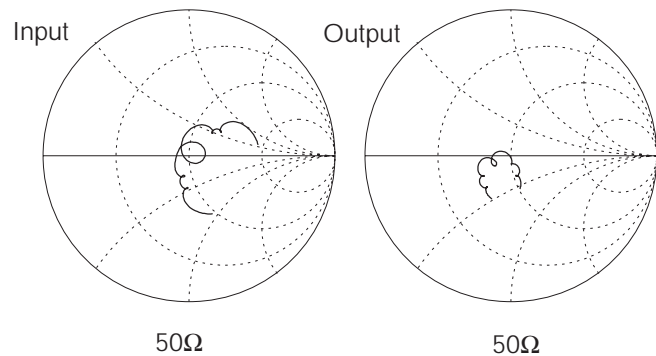
Horizontal: 500 kHz/Div
Vertical: 8 dB/Div



Horizontal: 180 kHz/Div
Vertical: 1 dB/Div



Horizontal: 5 MHz / Div
Vertical: 10 dB / Div



Specifications

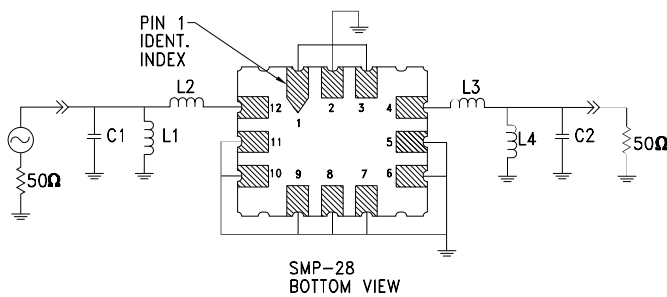
Parameter	Unit	Minimum	Typical	Maximum
Center Frequency, f_0	MHz	-	210.38	-
Insertion Loss	dB	-	7.2	9
5 dB Lower Frequency	MHz	-	209.7	209.75
5 dB Upper Frequency	MHz	211.01	211.1	-
33 dB Lower Frequency	MHz	209.13	209.26	-
33 dB Upper Frequency	MHz	-	211.51	211.63
Attenuation at 209.13 MHz	dB	33	42	
Attenuation at 211.63MHz	dB	33	48	
Attenuation at 208.33 MHz	dB	33	43	-
Attenuation at 212.43 MHz	dB	33	40	-
Amplitude Variation over the $f_0 \pm .300$ MHz	dB p-p	-	0.5	1.2
Phase Ripple over the $f_0 \pm .615$ MHz	deg rms	-	2	3.5
Ultimate Rejection	dB	40	50	-
Substrate Material	-	-	Quartz	-
Operating Temperature Range	°C	-30	25	80
Storage Temperature Range	°C	-55	25	125

Notes

- (1) Sawtek's production specifications reflect the typical performance in a 50 ohm single-ended system. This filter can be used in both single-ended and/or differential modes at each port. In addition, similar performance can be achieved in source and load impedances ranging from 50 to 1000 ohms.
- (2) The typical insertion loss may vary slightly depending on actual source and load impedances, matching configuration and PC board layout.
- (3) Inductors with $\pm 2\%$ tolerance may be required.
- (4) In production, devices will be tested at room temperature to a guardbanded specification to ensure electrical compliance over temperature.

Matching Configurations

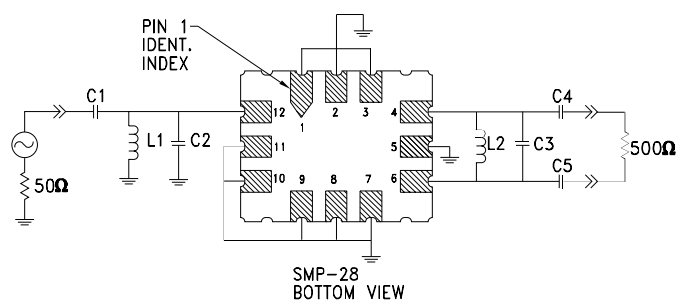
50Ω Single-ended



$L1 = 12 \text{ nH}$, $L2 = 39 \text{ nH}$, $L3 = 30 \text{ nH}$,
 $L4 = 12 \text{ nH}$, $C1 = \text{TBD}$, $C2 = \text{TBD}$

A trimmer Capacitor may be needed for $L1$ & $L4$
depending on PCB parasitics

50Ω Single-ended / 500Ω Balanced

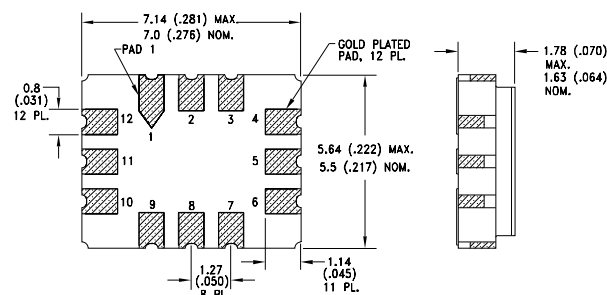


$L1 = 40 \text{ nH}$, $L2 = 45 \text{ nH}$, $C1 = 3.8 \text{ pf}$
 $C2 = \text{TBD}$, $C3 = \text{TBD}$, $C4 = 4.2 \text{ pf}$, $C5 = 4.2 \text{ pf}$

A trimmer Capacitor may be needed for $L1$ & $L2$
depending on PCB parasitics

Package Outline

SMP-28B



Dimensions shown are in
millimeters (inches).