

# SAW Filter

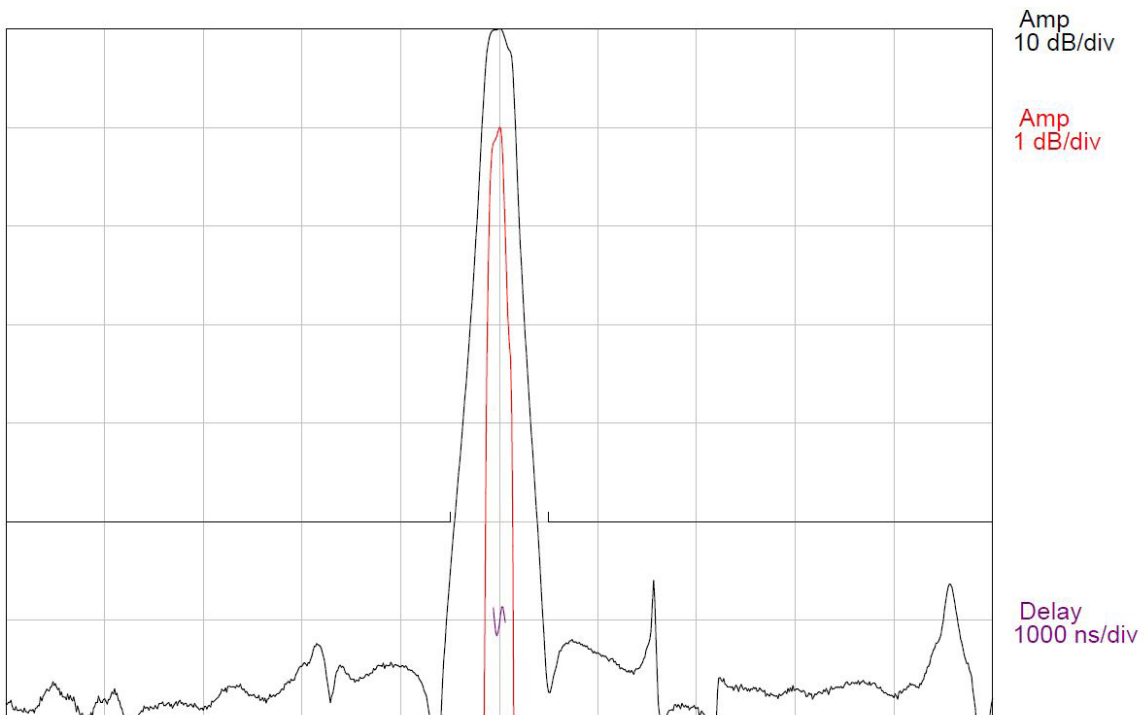
433.92 MHz SAW Bandpass Filter, 0.18 MHz Bandwidth



- 5 x 5 mm Ceramic LCC Package, 8 Pads
- RoHS Compliant

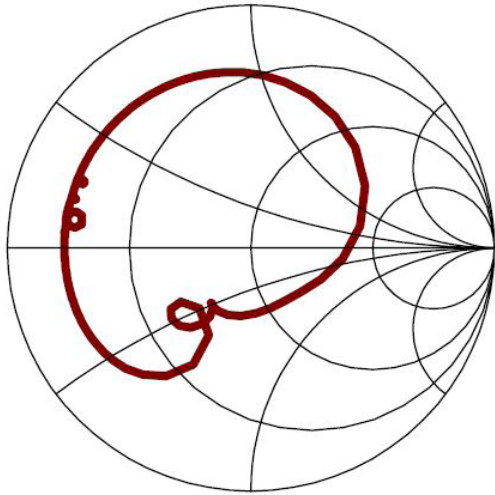
These filters are manufactured on quartz, which provides optimal temperature performance and are available from 80 -1600 MHz. This TCRF is designed for narrowband IF filtering such as in satellite transponders, directional finders and anti-jam modems. Other packaging styles are available for more rugged environments and applications. Standard part numbers as well as custom solutions are available. Please contact sales for more information.

## TYPICAL PERFORMANCE

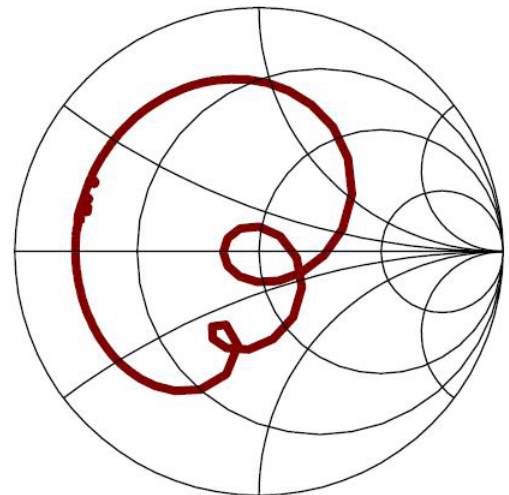


Center = 433.92 MHz, 1 MHz/div (12.5 kHz incr)

## S11 (428.92-438.92 MHz)



## S22 (428.92-438.92 MHz)



### SPECIFICATION

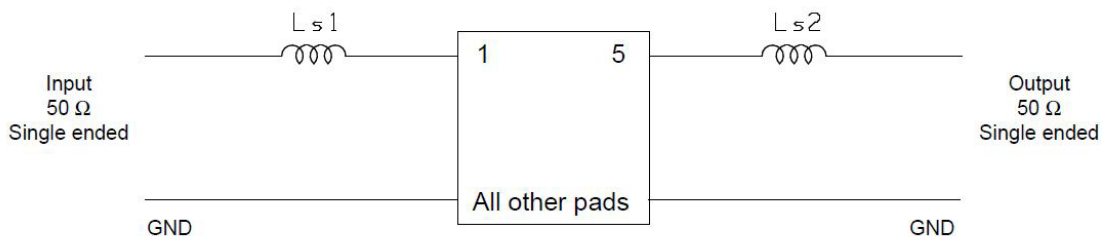
Parameter	Min	Typ	Max	Units
Center Frequency, (Fc) <sup>1</sup>	433.89	433.92	433.95	MHz
Minimum Insertion Loss	-	3.9	6	dB
Absolute Delay	-	3.15	-	us
1 dB Bandwidth <sup>2</sup>	0.12	0.2	-	MHz
Lower 3 dB Frequency <sup>2</sup>	-	433.79	433.83	MHz
Upper 3 dB Frequency <sup>2</sup>	434.01	434.05	-	MHz
3 dB Bandwidth <sup>2</sup>	0.18	0.26	-	MHz
50 dB Bandwidth <sup>2</sup>	-	0.93	1	MHz
Relative Attenuation (10 - 433.38 MHz) <sup>2</sup>	50	55	-	dB
Relative Attenuation (434.46 - 700 MHz) <sup>2</sup>	50	55	-	dB
Turnover Temperature	-	0	-	°C
Temperature Coefficient of Frequency (Tc) <sup>3</sup>	-0.032			ppm/°C <sup>2</sup>
Source and Load Impedance	50			ohms
Ambient Temperature (Tref)	-	25	-	°C

- Notes:
1. Reference frequency at 25°C. Computed as mean of the 3 dB frequencies.
  2. All dB values are referenced to the insertion loss value.
  3. Typical shift of frequency response with temperature is:  $\Delta f = (T - T_{ref}) * T_c * F_c$

### MAXIMUM RATINGS

Parameter	Min	Max	Units
Storage Temperature	-40	85	°C
Input Power Level	-	10	dBm

### MATCHING CIRCUIT

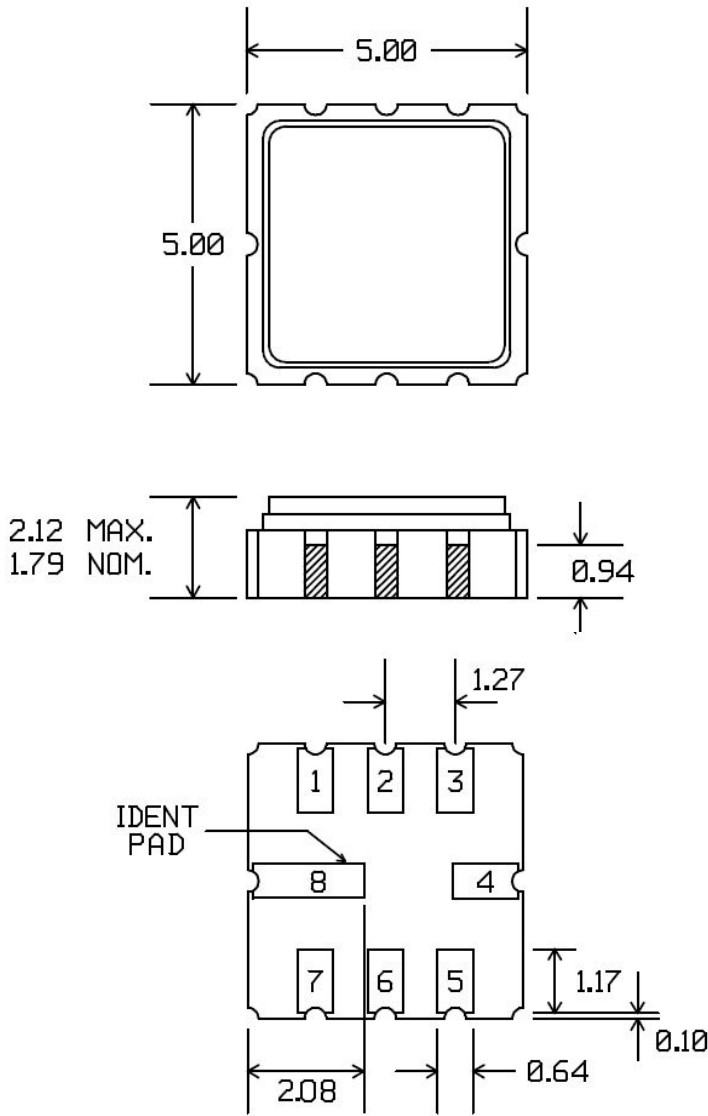


$$L_{s1} = 68 \text{ nH}, \quad L_{s2} = 68 \text{ nH}$$

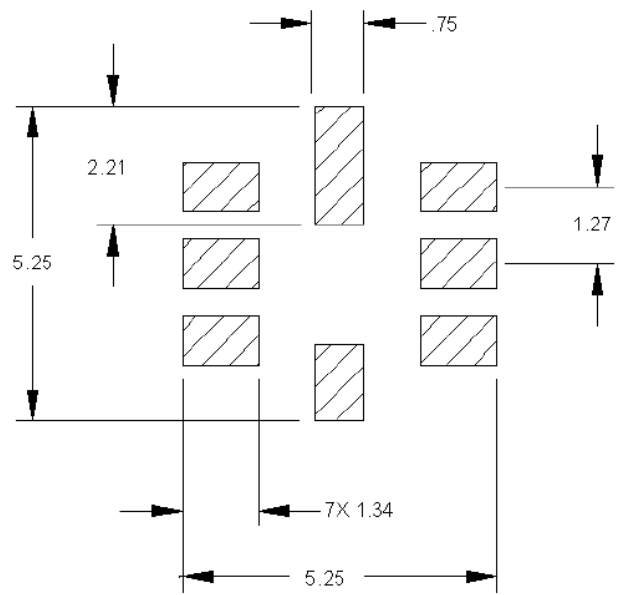
Notes:

- Recommend 2% or better tolerance matching components. Typical inductor Q=40.
- Optimum values may change depending on board layout. Values shown are intended as a guide only.

**PACKAGE OUTLINE**



**SUGGESTED FOOTPRINT**



**Units:** mm

Tolerance are typically  $\pm 0.15$  mm except where indicated.

**Pad Configuration:**

Input: 1  
 Output: 5  
 Ground: All other pads

**Package Material:**

Body:  $Al_2O_3$  ceramic  
 Lid: Kovar, Ni plated  
 Terminations: Au plating 1  $\mu$ m min, over a 1.3 - 8.9  $\mu$ m Ni plating

**MARKING**

