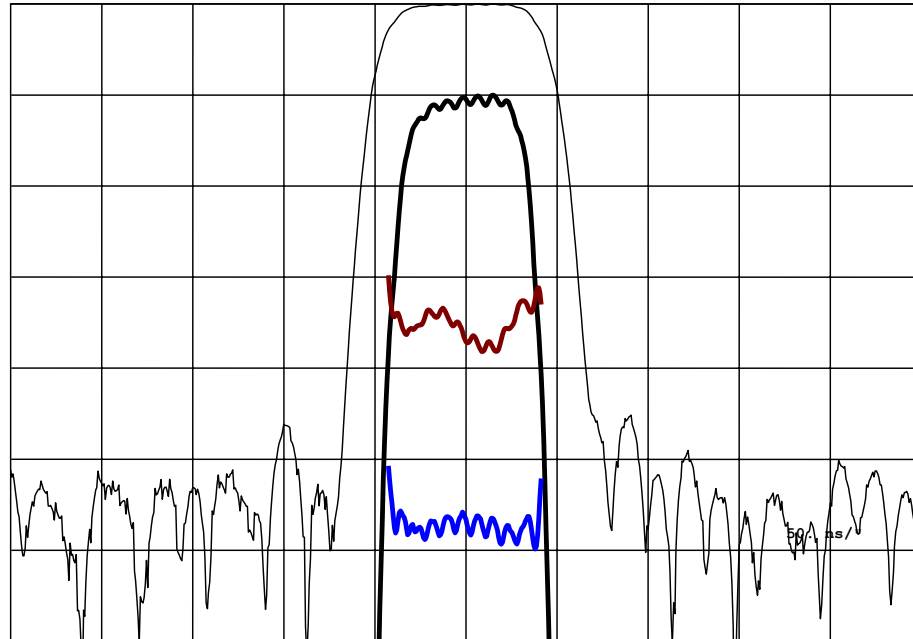


**DESCRIPTION**

- 140 MHz SAW bandpass filter with 4 MHz bandwidth in 13.3 x 6.5 mm SMP.
- RoHS compliant.

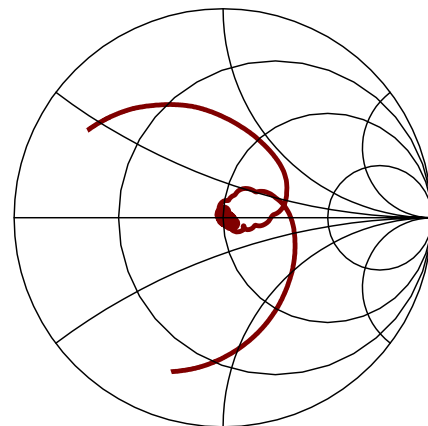
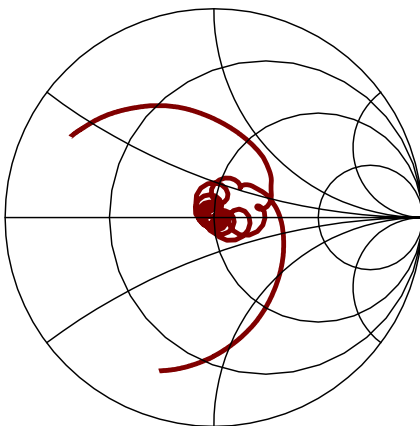
**TYPICAL PERFORMANCE**



Horizontal:	Frequency	3	MHz / div
Vertical (from top):	Magnitude	10	dB/div
	Magnitude	1	dB/div
	Phase Deviation	3	deg/div
	Group Delay Deviation	50	ns/div

**S11**

**S22**



## SPECIFICATION

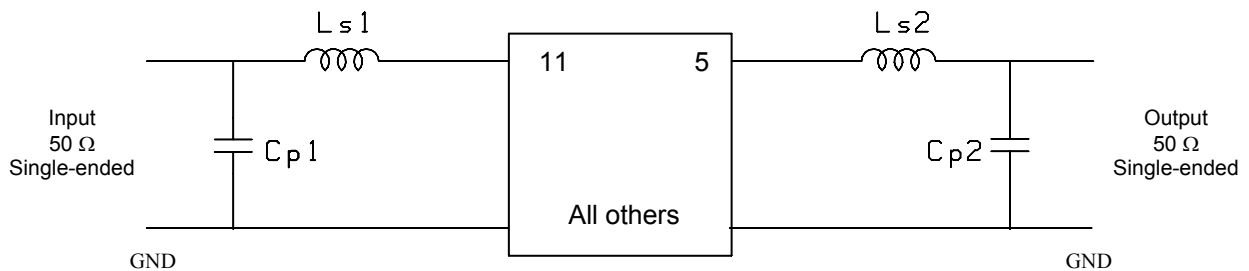
Parameter	Min	Typ	Max	Units
Center Frequency, $F_c$ <sup>1</sup>	139.60	140.00	140.40	MHz
Insertion Loss at $F_c$	-	9.8	11	dB
1 dB Bandwidth <sup>2</sup>	3.7	4.2	-	MHz
3 dB Bandwidth <sup>2</sup>	4.0	5.1	-	MHz
40 dB Bandwidth <sup>2</sup>	-	7.8	8.3	MHz
Rejection (70 MHz to 135.45 MHz) <sup>2</sup> (144.55 MHz to 210 MHz) <sup>2</sup>	43	47	-	dB
Passband Ripple (138.2 to 141.8 MHz)	-	0.4	0.7	dB p-p
Phase Ripple (138.2 to 141.8 MHz)	-	2	3	deg p-p
Group Delay Variation (138.2 to 141.8 MHz)	-	30	50	ns p-p
Temperature coefficient	-	-23	-	ppm/°C
Source/Load Impedance	50			ohms
Ambient Temperature	-	25	-	°C

- Notes:
1. Defined as the average of the lower and upper 3 dB frequencies.
  2. All dB levels are defined relative to the insertion loss.

## MAXIMUM RATINGS

Parameter	Min	Max	Units
Storage Temperature Range	-40	85	°C
Operating Temperature Range	0	70	°C
Input Power Level		10	dBm

## MATCHING CIRCUIT



Typical component values:  
(Minimum inductor Q = 40)

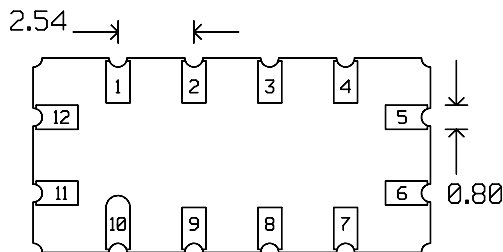
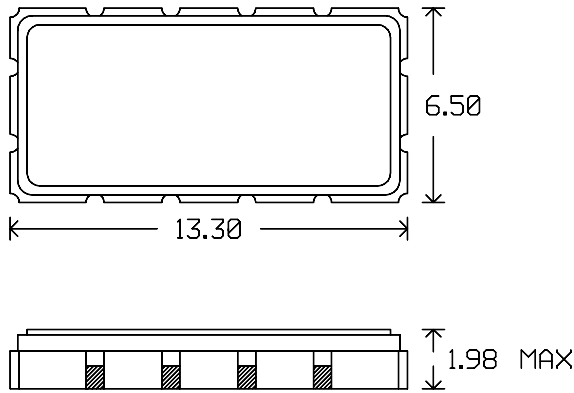
$$\begin{aligned} L_{s1} &= 75 \text{ nH} \\ C_{p1} &= 47 \text{ pF} \end{aligned}$$

$$\begin{aligned} L_{s2} &= 75 \text{ nH} \\ C_{p2} &= 47 \text{ pF} \end{aligned}$$

Notes:

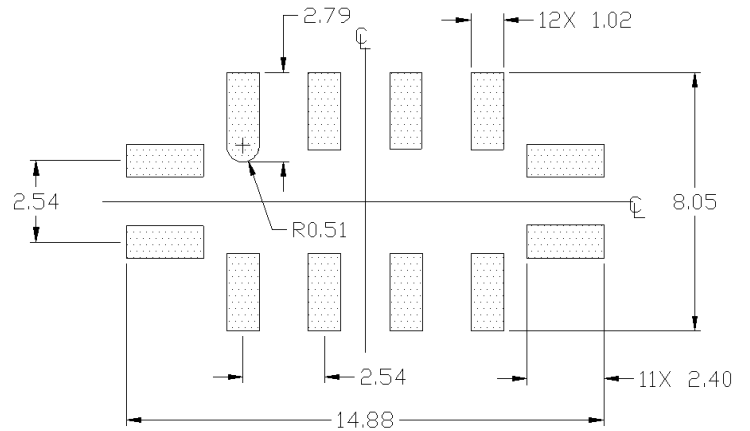
1. Recommend use of 2% tolerance matching components.
2. Component values shown are for guidance only and may change depending on board layout.

**PACKAGE OUTLINE**



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

**SUGGESTED FOOT PRINT**



**Units:** mm

Tolerances are  $\pm 0.15$  mm except for the overall length and width, which are nominal values.

**Pad Configuration:**

Input: 11  
Output: 5  
Ground: 1,2,3,5,7,8,9,10

ISO 9001  
Registered

All specifications are believed to be accurate and reliable. However, Spectrum Microwave reserves the right to make changes without notice.  
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