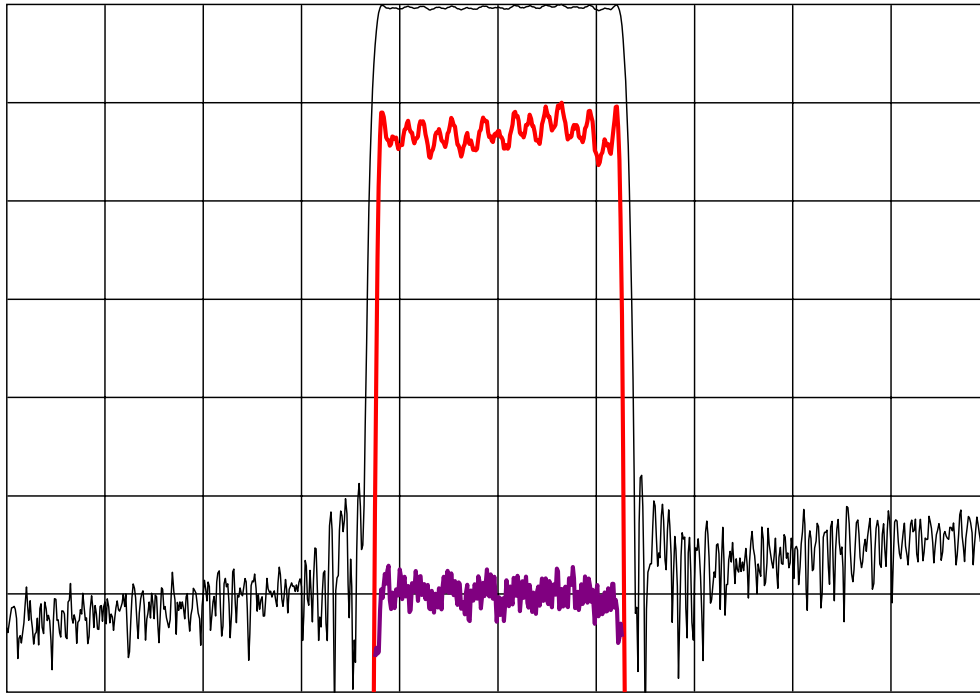


**DESCRIPTION**

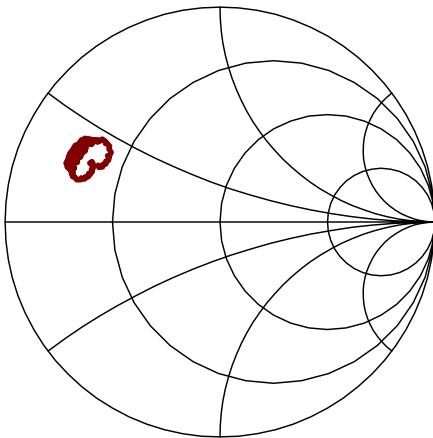
- 140 MHz SAW bandpass filter with 14.4 MHz bandwidth.
- 24.6 x 9 mm SMP package.
- RoHS compliant.

**TYPICAL PERFORMANCE**

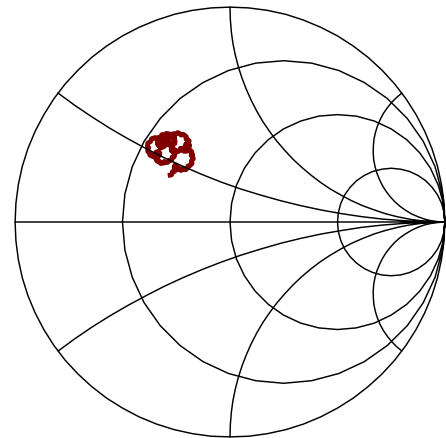


Horizontal: Frequency: 5 MHz/div  
 Vertical from top: Relative Magnitude : 10 dB/div  
 Relative magnitude : 1 dB/div  
 Group Delay Deviation : 500 ns/div

**S11 (133-147 MHz)**



**S22 (133-147 MHz)**



## SPECIFICATION

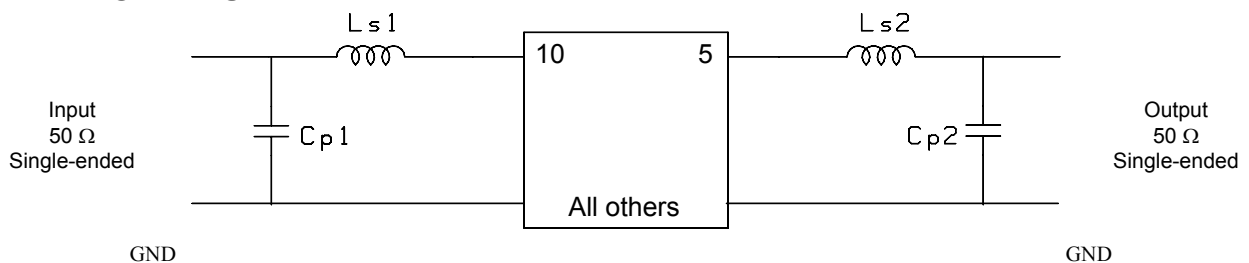
Parameter	Min	Typ	Max	Units
Center Frequency $F_C$ <sup>1</sup>	139.70	140.00	140.30	MHz
Minimum Insertion Loss	-	19.8	22	dB
1 dB Bandwidth <sup>2</sup>	14.4	14.75	-	MHz
3 dB bandwidth <sup>2</sup>	15.0	15.06	-	MHz
20 dB Bandwidth <sup>2</sup>	-	15.90	16.10	MHz
40 dB Bandwidth <sup>2</sup>	-	16.33	16.50	MHz
Lower 45 dB Band Edge <sup>2</sup>	131.50	131.844	-	MHz
Upper 45 dB Band Edge <sup>2</sup>	-	148.26	148.50	MHz
Amplitude Variation ( $F_C \pm 7$ MHz)	--	0.7	1.0	dB p-p
Group Delay Variation ( $F_C \pm 7$ MHz)	-	30	60	ns p-p
Absolute Delay	-	2.08	2.10	us
Rejection (129 to 131.5)	45	48	-	dB
Rejection (148.5 to 151 MHz)	45	48	-	dB
Rejection (40 to 129 MHz)	45	42	-	dB
Rejection (151 to 190 MHz)	45	51	-	dB
Rejection (190 to 400 MHz)	45	52	-	dB
Temperature Coefficient of Frequency	-	-94	-	ppm/°C
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 at 63 MHz.

## 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)

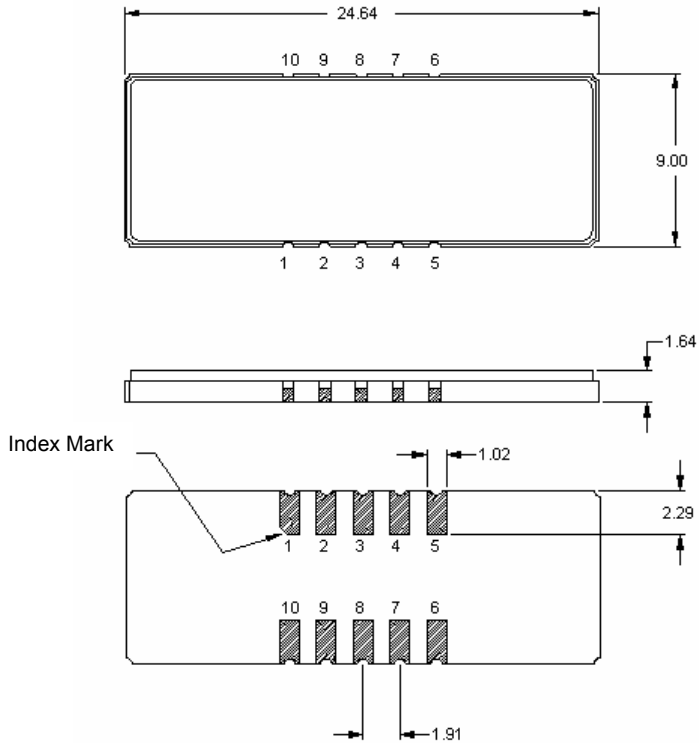
$$\begin{aligned} L_{s1} &= 33 \text{ nH} \\ C_{p1} &= 27 \text{ pF} \end{aligned}$$

$$\begin{aligned} L_{s2} &= 56 \text{ nH} \\ C_{p2} &= 27 \text{ pF} \end{aligned}$$

Notes:

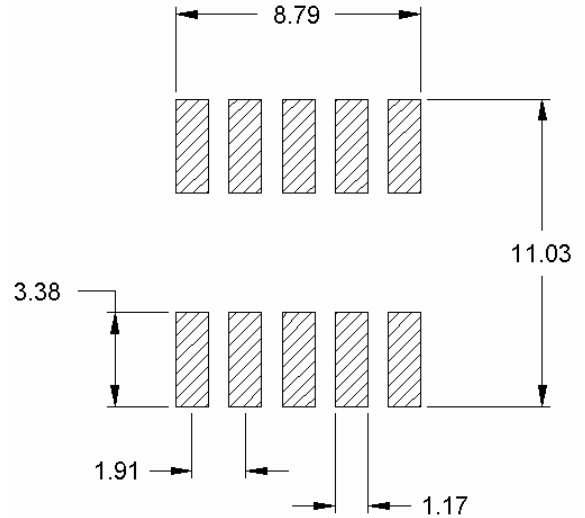
1. Recommend use of 2% tolerance matching components.
2. Component values are for reference only and may change depending on board layout.

**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 FOOTPRINT**



Units: mm

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

**Pad Configuration:**

Input:	10
Input return:	1
Output:	5
Output return:	6
Ground:	2,3,4,7,8,9

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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