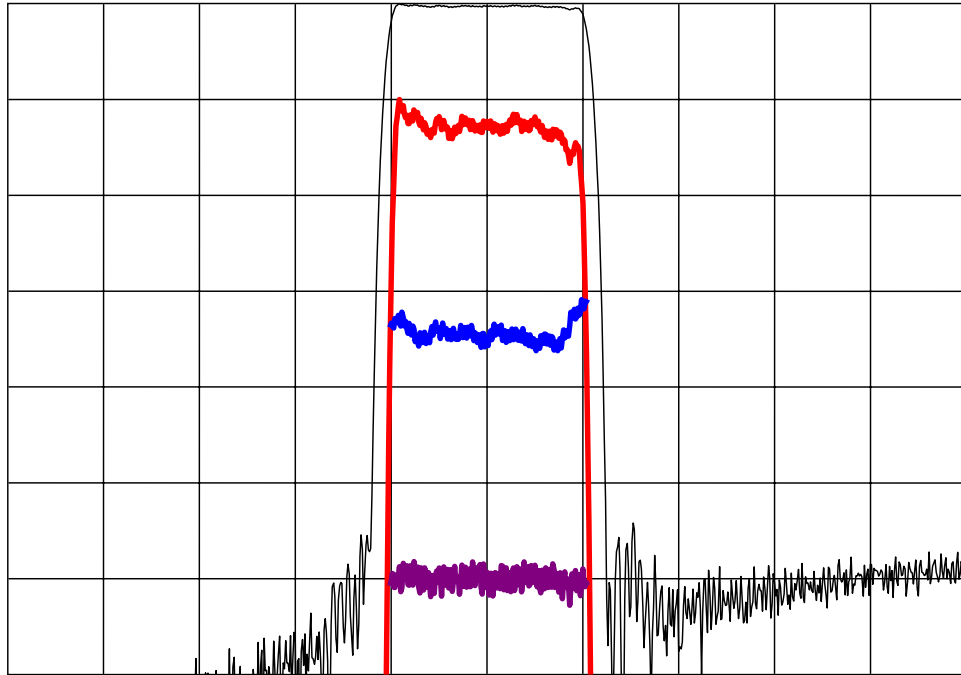


**DESCRIPTION**

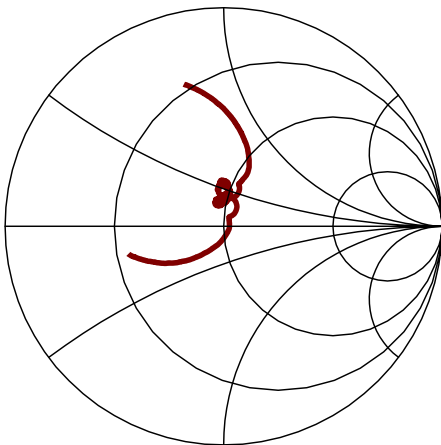
- 140 MHz SAW bandpass filter with 20 MHz bandwidth.
- 22.1 x 12.7 mm SMP package.
- RoHS compliant.

**TYPICAL PERFORMANCE**

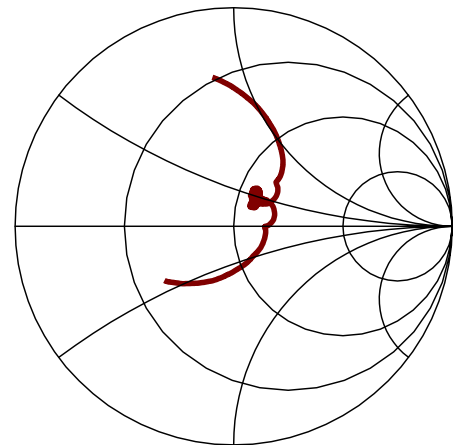


Horizontal: Frequency : 8 MHz/div  
 Vertical from Top: Relative Magnitude : 10 dB/div  
 Relative magnitude : 1 dB/div  
 Phase Linearity : 5 deg/div  
 Group Delay : 50 ns/div

**S11**



**S22**



## SPECIFICATION

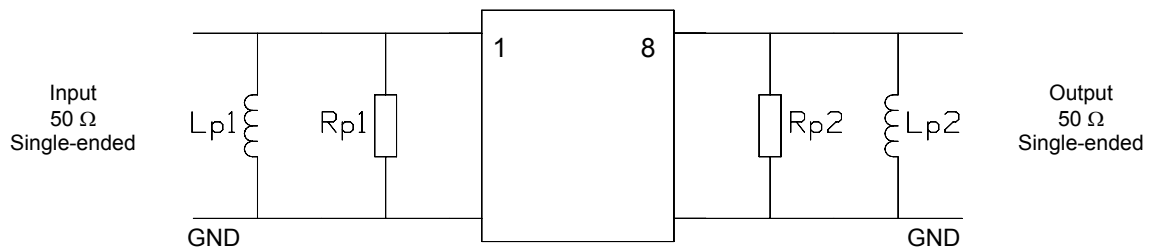
Parameter	Min	Typ	Max	Units
Center Frequency (Fc, 3dB points)	139.80	140.00	140.20	MHz
Insertion Loss (at Fc)	-	24.2	25	dB
1 dB Bandwidth <sup>2</sup>	-	19.90	-	MHz
3 dB Bandwidth <sup>2</sup>	20.00	20.67	-	MHz
50 dB Bandwidth <sup>2</sup>	-	24.45	25.00	MHz
Device Delay	-	1.30	1.5	us
Group Delay Deviation (in 1dB BW) <sup>3</sup>	-	70	140	ns p-p
Passband Ripple (in 1dB BW)	-	0.8	1.0	dB p-p
Rejection (70 to 127.5 MHz) <sup>2</sup>	50	56	-	dB
Rejection (162.5 to 210 MHz) <sup>2</sup>	50	57	-	dB
Input Return Loss at Fc	-	14	-	dB
Output Return Loss at Fc	-	14	-	dB
Source and Load Impedance	-	50	-	Ω
Ambient Temperature (Tref)	-	25	-	°C

- Notes:
1. All specifications apply at 25°C with filter measured in a 50 ohm system.
  2. Parameter is measured relative to the insertion loss at 140 MHz.
  3. This parameter may be measured after applying a smoothing aperture of 250 KHz.
  4. Typical change of filter response with temperature is:  $\Delta f = (T-T_{ref}) \cdot T_c \cdot F_c$  in ppm.

## MAXIMUM RATINGS

Parameter	Min	Typ	Max	Units
Storage Temperature Range	-40	25	85	°C
Temperature Coefficient of Frequency (Tc) <sup>4</sup>	-	-94	-	ppm/°C
Input Power Level	-	0	10	dBm

## MATCHING CIRCUIT



Typical component values:  
(Minimum inductor Q = 45)

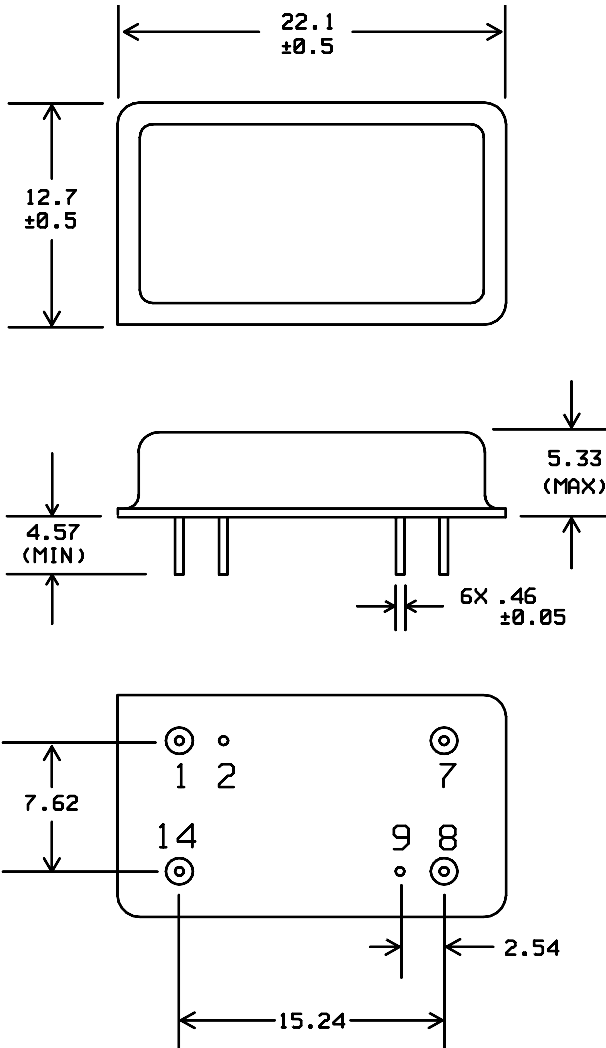
$$\begin{aligned} L_{p1} &= 39 \text{ nH} \\ R_{p1} &= 82 \text{ } \Omega \end{aligned}$$

$$\begin{aligned} L_{p2} &= 43 \text{ nH} \\ R_{p2} &= 100 \text{ } \Omega \end{aligned}$$

Notes:

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

**PACKAGE OUTLINE**



**Units:** mm

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

**Pin Configuration:**

Input: 1  
Output: 8  
Ground: 2,7,9,14

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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