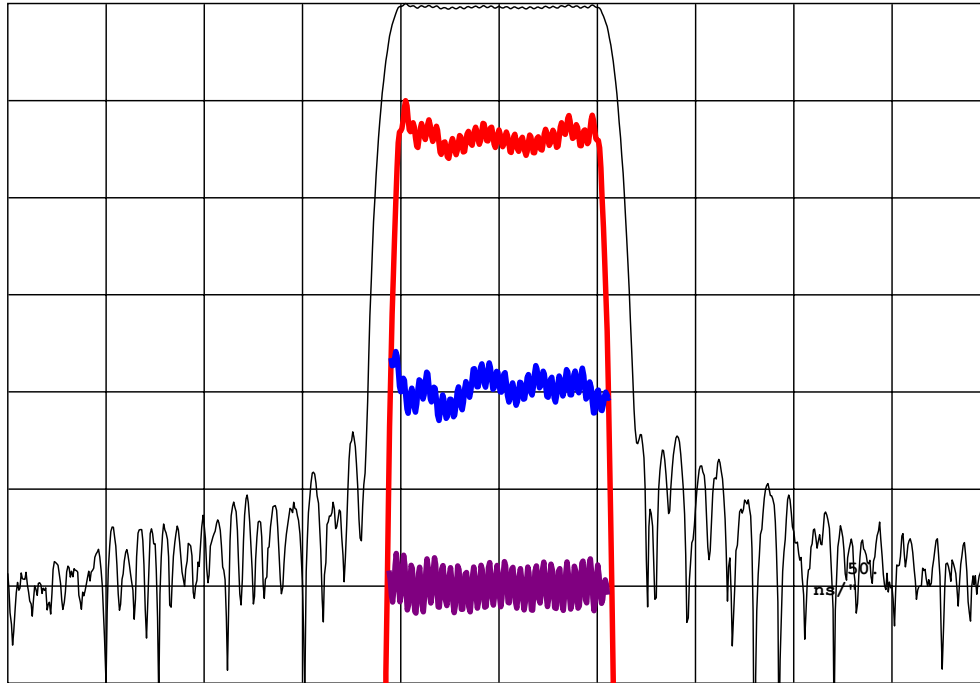


**DESCRIPTION**

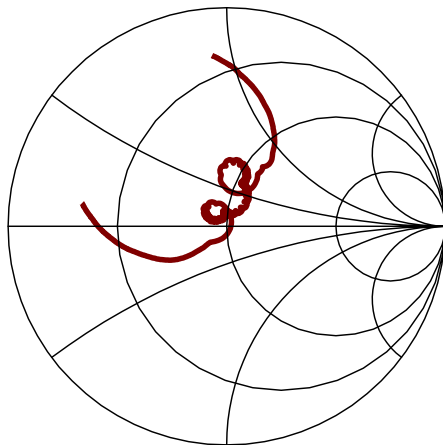
- 156 MHz SAW bandpass filter with 10 MHz bandwidth.
- 13.3 x 6.5 mm LCC package.
- RoHS compliant.

**TYPICAL PERFORMANCE**

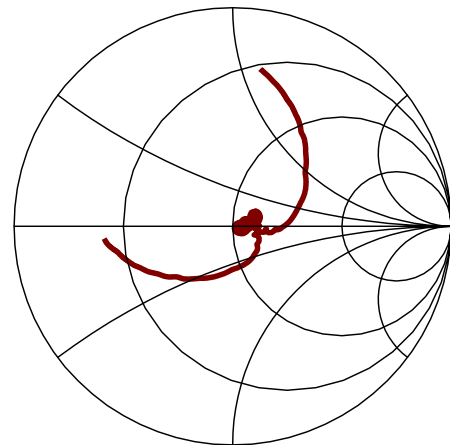


Horizontal: Frequency : 5 MHz/div  
 Vertical from Top: Relative Magnitude : 10 dB/div  
 Relative magnitude : 1 dB/div  
 Phase Linearity : 5 deg/div  
 Group Delay Deviation : 100 ns/div

**S11 (131 to 181 MHz)**



**S22 (131 to 181 MHz)**



## SPECIFICATION

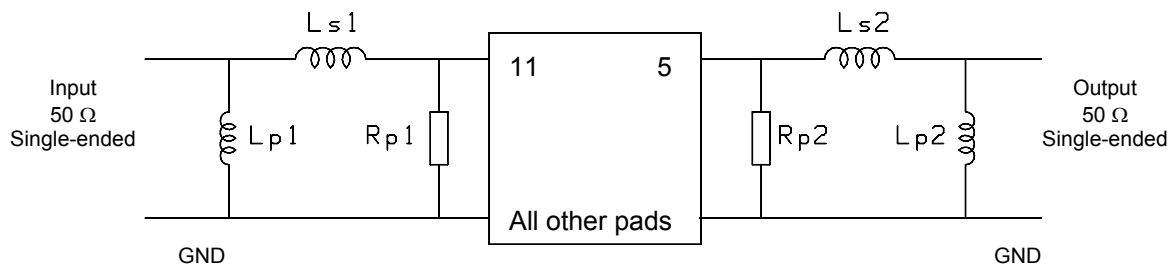
Parameter <sup>3</sup>	Min	Typ	Max	Units
Center Frequency (Fc) <sup>1</sup>	-	156.0	-	MHz
Minimum Insertion Loss <sup>2</sup>	-	20.2	22	dB
1 dB Bandwidth	10		-	MHz
Amplitude Variation (151 to 161 MHz)	-		1	dB p-p
Group Delay Ripple (151 to 161 MHz)	-		150	ns p-p
Relative Attenuation at 141.0 MHz	45		-	dB
Relative Attenuation at 149.0 MHz	40		-	dB
Relative Attenuation at 163.0 MHz	40		-	dB
Relative Attenuation at 171.0 MHz	45		-	dB
Ultimate Rejection	50		-	dB
Source and Load Impedance	-	50	-	ohms
Input Power		+10	-	dBm
Ambient Temperature (Tref)	-	23	-	°C

- Notes:
1. Average of the lower and upper 3 dB band edge frequencies.
  2. All dB values are referenced to the insertion loss.
  3. Specifications are valid for a temperature of 23°C.
  4. Typical change of filter frequency response with temperature is  $\Delta f = (T - T_{ref}) * T_c * F_c$ , in ppm.

## MAXIMUM RATINGS

Parameter	Min	Typ	Max	Units
Storage Temperature Range	-40	25	85	°C
Operating Temperature Range (T)	-10	25	65	°C
Temperature Coefficient of Frequency (Tc) <sup>4</sup>	-	-23	-	ppm/°C
Input Power Level	-	10	13	dBm

## MATCHING CIRCUIT



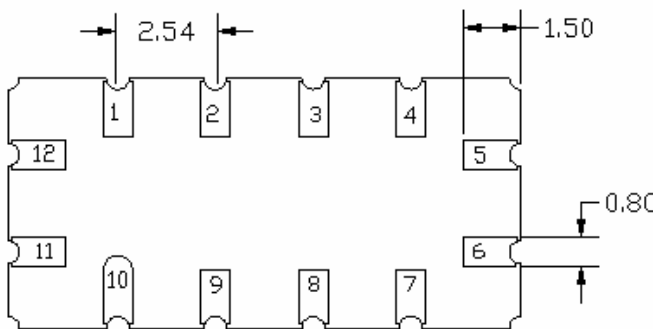
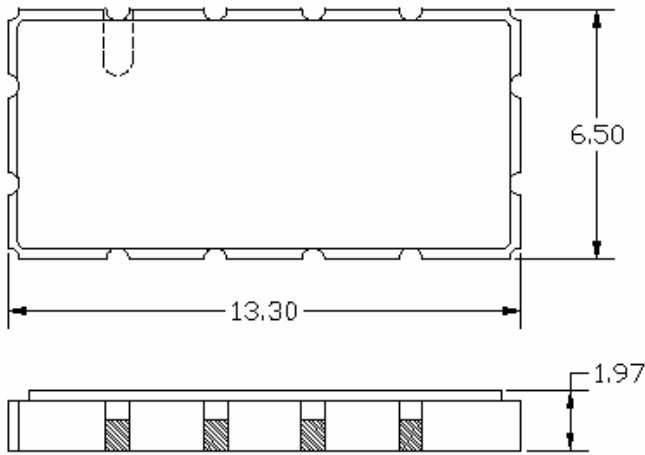
Typical component values:

Ls1 =	18 nH	Ls2 =	18 nH
Lp1 =	18 nH	Lp2 =	22 nH
Rp1 =	560 Ω	Rp2 =	560 Ω

Notes:

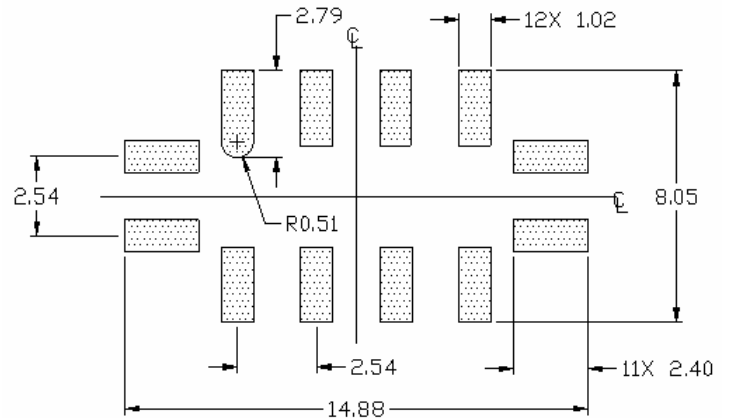
1. Recommend use of 2% tolerance matching components. Inductor Q=45.
2. Component values are for reference only and may change depending on board layout.

**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 where indicated and for the overall length and width, which are nominal values.

**Pad Configuration:**

Input: 11  
Output: 5  
Ground: All other pads

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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