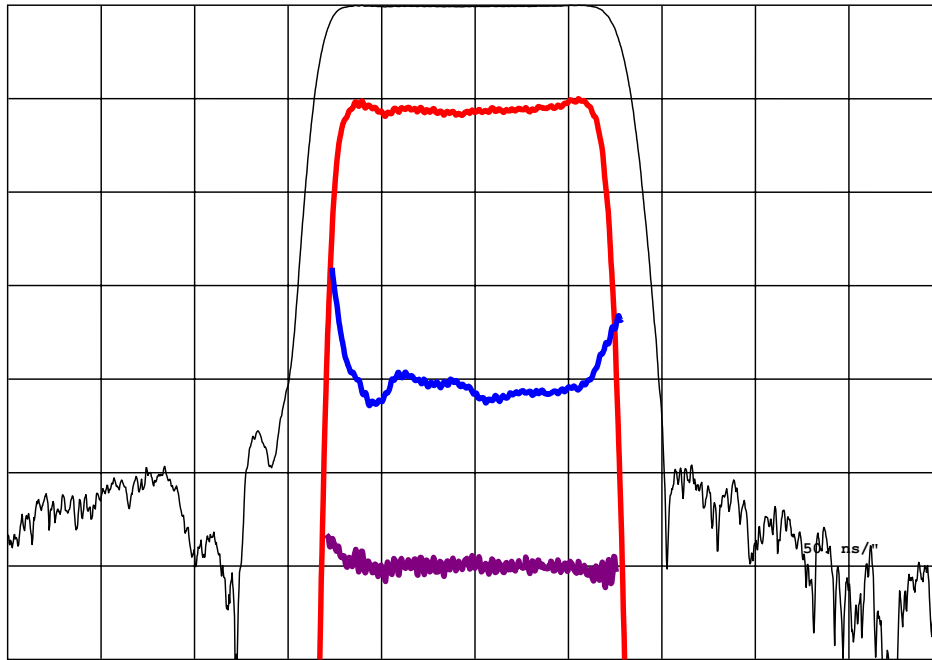


## DESCRIPTION

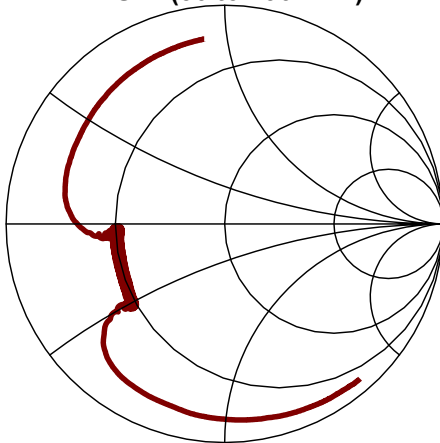
- 96 MHz SAW bandpass filter with 20 MHz bandwidth for WCDMA applications.
- 13.3 x 6.5 mm SMP.
- RoHS compliant.

## TYPICAL PERFORMANCE

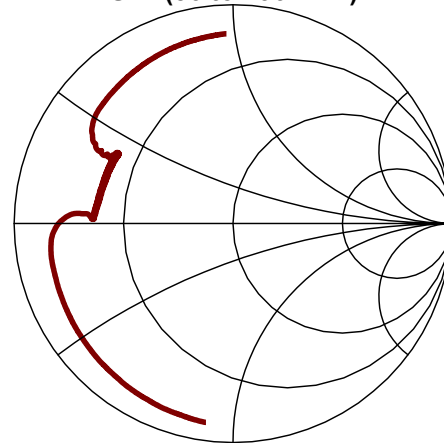


Horizontal: Frequency : 8 MHz/div  
 Vertical from top: Relative Magnitude : 10 dB/div  
 Relative magnitude : 1 dB/div  
 Phase Linearity: 5 deg/div  
 Group Delay : 50 ns/div

**S11 (56 to 136 MHz)**



**S22 (56 to 136 MHz)**



## SPECIFICATION

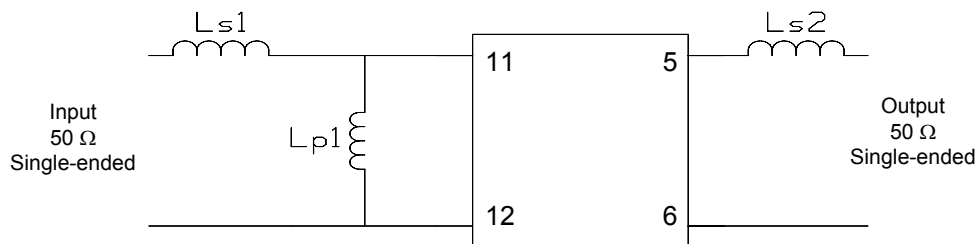
Parameter	Min	Typ	Max	Units
Center Frequency ( Fc ) <sup>1</sup>	-	96	-	MHz
Insertion Loss <sup>2</sup>	-	14	15.5	dB
0.6 dB Bandwidth <sup>3</sup>	20	22.8	-	MHz
40 dB bandwidth	-	31.5	35	MHz
Amplitude Ripple (86 to 106 MHz)	-	0.6	0.8	dB p-p
Amplitude Ripple in any 3.84 MHz band (86 to 106 MHz)	-	0.3	0.6	dB p-p
Phase Linearity (86 to 106 MHz)	-	3	7	deg p-p
Group Delay Variation (86 to 106 MHz)	-	20	50	ns
Absolute Delay	-	0.89	-	us
Rejection (0.3 to 10 MHz) <sup>3</sup>	25	50	-	dB
Rejection (10 to 68 MHz) <sup>3</sup>	45	50	-	dB
Rejection (68 to 78.5 MHz) <sup>3</sup>	40	45	-	dB
Rejection (113.5 to 124 MHz) <sup>3</sup>	40	45	-	dB
Rejection (124 to 160 MHz) <sup>3</sup>	45	52	-	dB
Rejection (160 to 500 MHz) <sup>3</sup>	25	27	-	dB
Ambient Temperature	20	25	30	°C
Temperature Coefficient of Frequency	-	-90	-	ppm/°C
Source and Load Impedance	50			Ω

- Notes:
1. Average of lower and upper 3 dB frequencies (3 dB measured from peak).
  2. Average loss over 86 to 106 MHz.
  3. Reference 0 dB at insertion loss level.

## MAXIMUM RATINGS

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

## MATCHING CIRCUIT



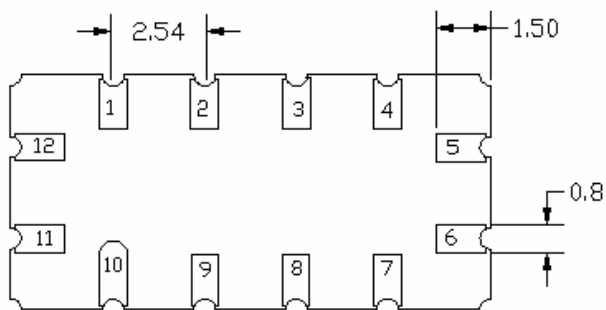
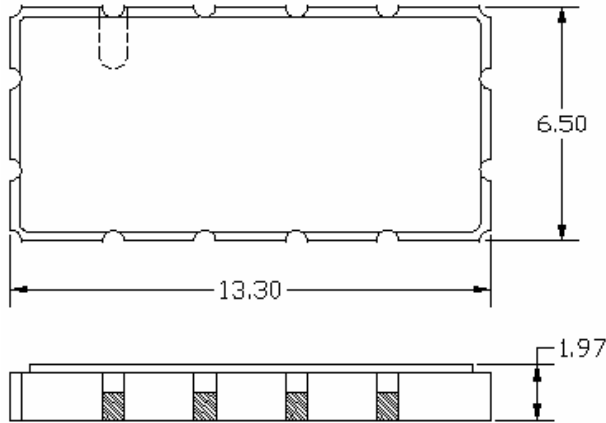
Typical component values:

$$\begin{aligned} L_{p1} &= 820 \text{ nH} & L_{s2} &= 68 \text{ nH} \\ L_{s1} &= 82 \text{ nH} & & \end{aligned}$$

Notes:

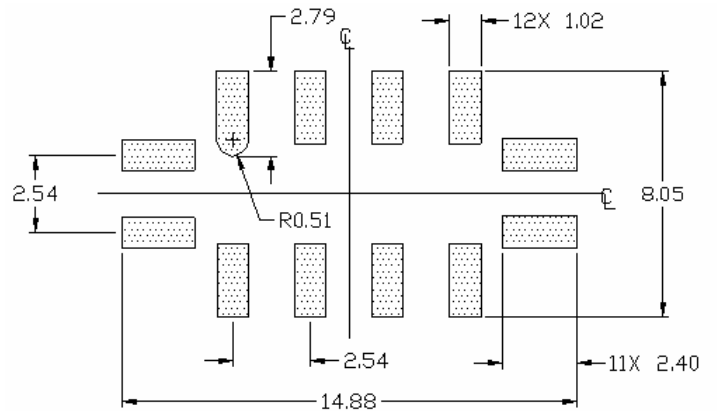
1. Recommend use of +/- 2% tolerance components. Minimum Q=40.
2. Component values are for reference only and may change depending on board layout.

**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:	11
Input return:	12
Output:	5
Output return:	6
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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