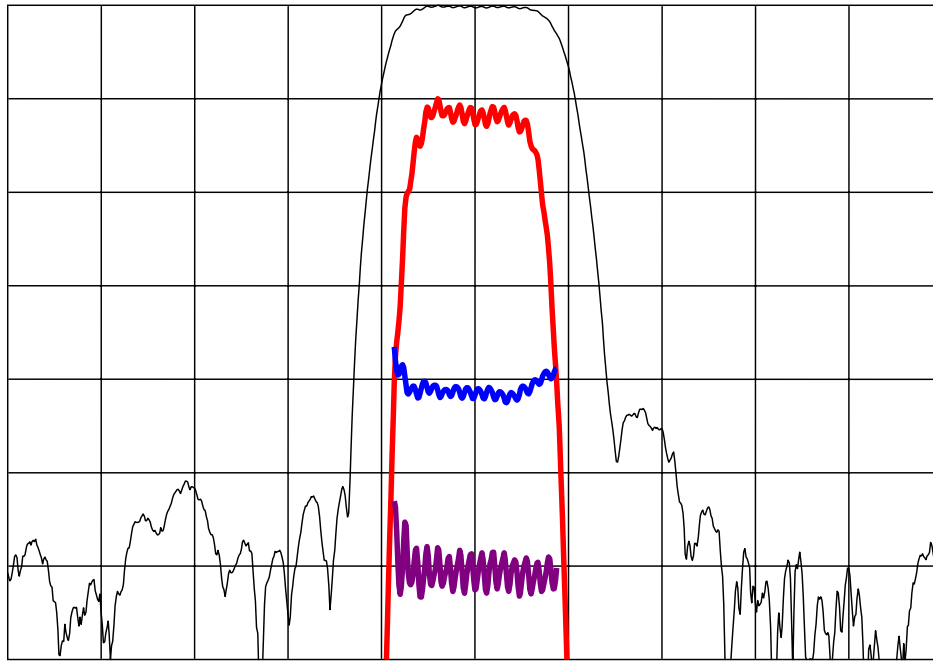


**DESCRIPTION**

- 77.8 MHz SAW bandpass filter with 3.84 MHz bandwidth for WCDMA applications.
- 13.3 x 6.5 mm SMP.
- RoHS compliant.

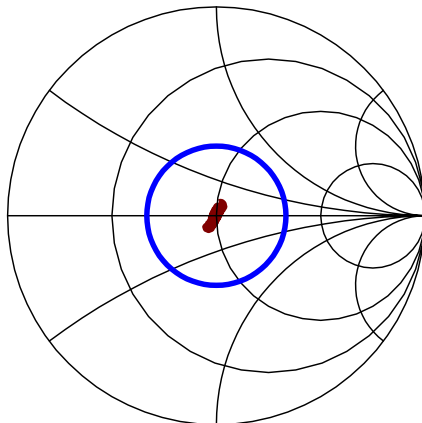
**TYPICAL PERFORMANCE**



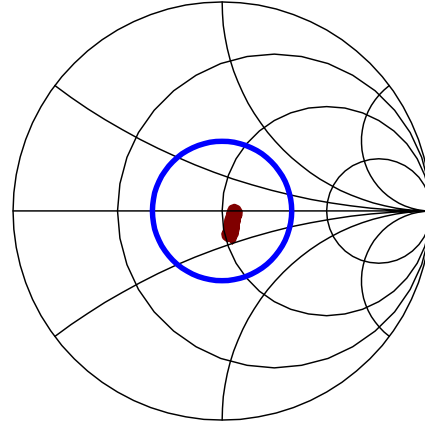
Horizontal:  
Vertical from top:

Frequency : 4 MHz/div  
Relative Magnitude : 10 dB/div  
Relative magnitude : 1 dB/div  
Phase Linearity : 10 deg/div  
Group Delay : 100 ns/div

**S11 (75.88 to 79.72 MHz)**  
**Circle is 2.0:1 VSWR**



**S22 (75.88 to 79.72 MHz)**  
**Circle is 2.0:1 VSWR**



## SPECIFICATION

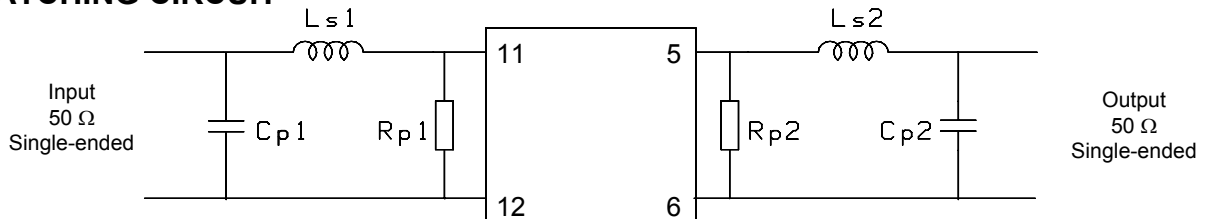
Parameter	Min	Typ	Max	Units
Center Frequency, Fc (fixed reference)	-	77.8	-	MHz
Operating Bandwidth	-	3.84	-	MHz
Insertion Loss at Fc	-	12	15	dB
Amplitude Ripple <sup>1</sup>	-	0.4	1	dB p-p
Triple Travel Response	35	42	-	dB
Lower 35 dB Frequency	71.5	72.5	-	MHz
Upper 35 dB Frequency	-	83.0	84.1	MHz
Phase Linearity <sup>1</sup>	-	2.5	8	deg p-p
Group Delay Variation <sup>1</sup>	-	50	100	ns p-p
Absolute Delay	-	1.06	1.5	us
Rejection <sup>2</sup> (0.3 to 7 MHz)	25	44	-	dB
(7 to 63 MHz)	45	55	-	dB
(63 to 71.5 MHz)	35	50	-	dB
(84.1 to 87.8 MHz)	32	42	-	dB
(87.8 to 93 MHz)	40	53	-	dB
(93 to 140 MHz)	45	57	-	dB
(140 to 170 MHz)	25	31	-	dB
(170 to 300 MHz)	45	60	-	dB
Input and Output VSWR at 25°C <sup>1</sup>		1.5	2.0	:1
Source and Load Impedance	-	50	-	Ω
Ambient Temperature	20	25	30	° C

- Notes: 1. Applies over the operating bandwidth.  
2. Rejection relative to passband insertion loss.

## MAXIMUM RATINGS

Parameter	Min	Max	Units
Storage Temperature Range	-40	95	°C
Operating Temperature Range	-10	85	°C
Operating Input Power Level	-	-10	dBm
Input Power Level without Damage	-	+17	dBm

## MATCHING CIRCUIT



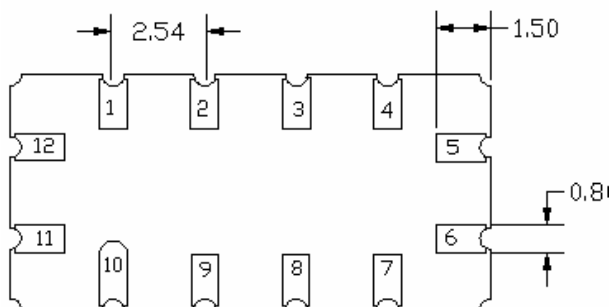
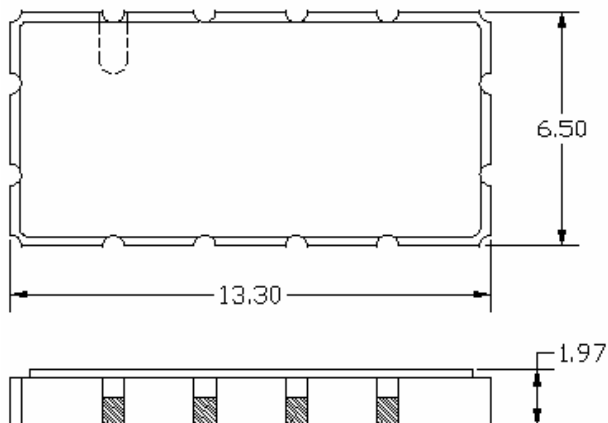
Typical component values:

$$\begin{aligned}
 R_{p1} &= 220 \text{ } \Omega & R_{p2} &= 220 \text{ } \Omega \\
 L_{s1} &= 120 \text{ nH} & L_{s2} &= 150 \text{ nH} \\
 C_{p1} &= 47 \text{ pF} & C_{p2} &= 33 \text{ pF}
 \end{aligned}$$

Notes:

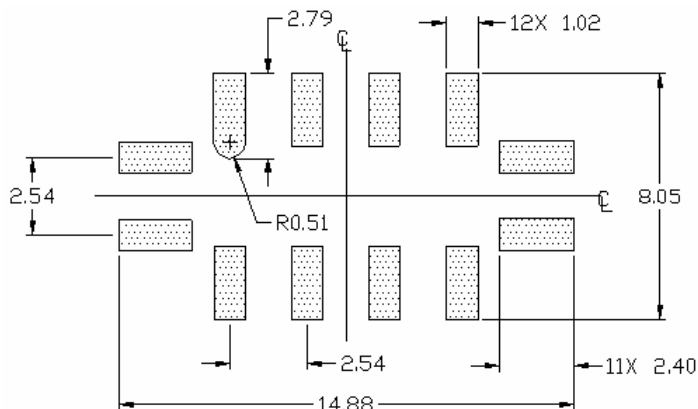
1. Recommend use of +/- 2% tolerance components. Minimum Q=40.
2. Component values are for reference only and may change depending on board layout.

**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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