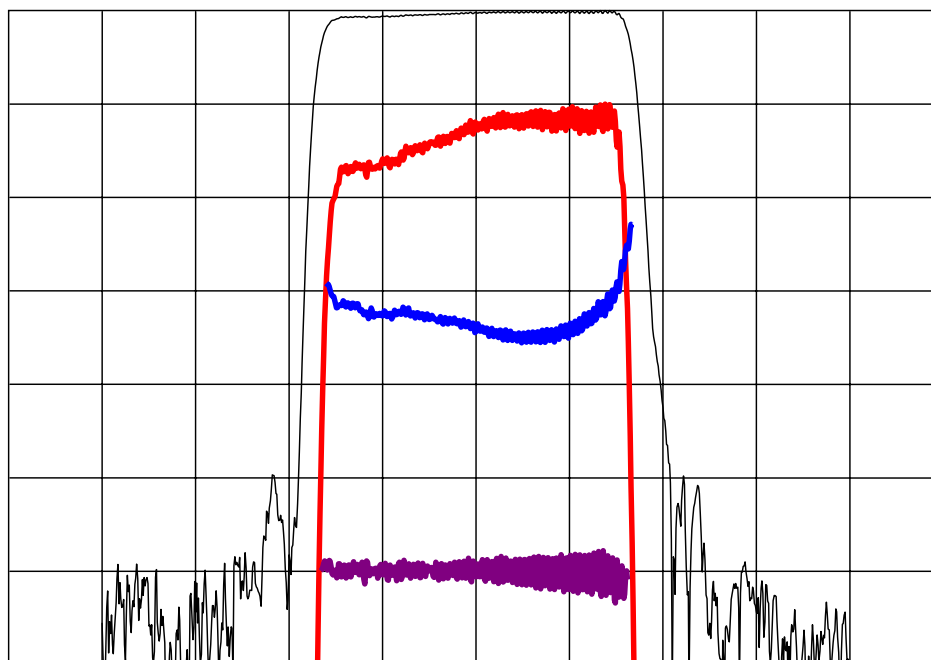


## DESCRIPTION

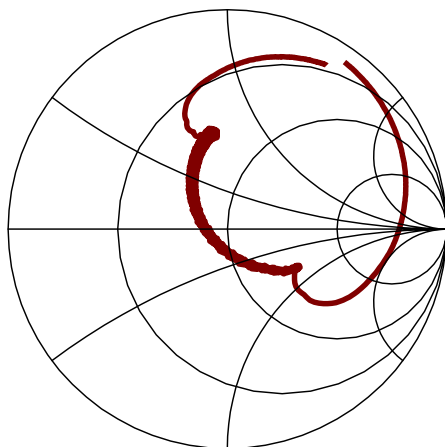
- 87.5 MHz SAW bandpass filter with 30 MHz bandwidth for wideband radio applications.
- 13.3 x 6.5 mm SMP.
- RoHS compliant.

## TYPICAL PERFORMANCE

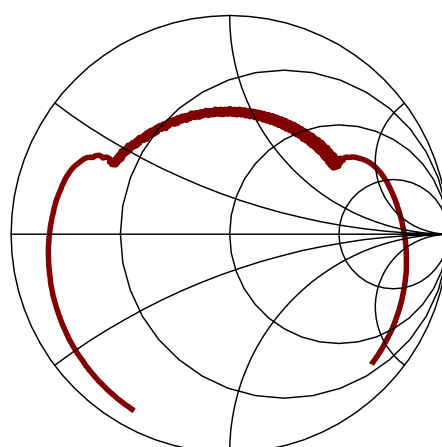


Horizontal: Frequency : 10 MHz/div  
 Vertical from top: Relative Magnitude : 10 dB/div  
 Relative magnitude : 1 dB/div  
 Phase Linearity : 10 deg/div  
 Group Delay : 100 ns/div

**S11 (37.5 to 137.5 MHz)**



**S22 (37.5 to 137.5 MHz)**



## SPECIFICATION

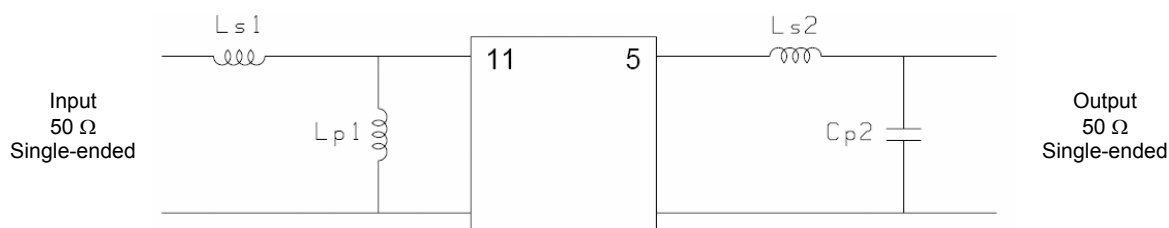
| Parameter                                                  | Min   | Typ   | Max   | Units    |
|------------------------------------------------------------|-------|-------|-------|----------|
| Center Frequency, $F_c$ <sup>1</sup>                       | -     | 87.5  | -     | MHz      |
| Insertion Loss <sup>2,5</sup>                              | -     | 16    | 18    | dB       |
| Lower 1 dB Frequency                                       | -     | 71.7  | 72.5  | MHz      |
| Upper 1 dB Frequency                                       | 102.5 | 103.4 | -     | MHz      |
| Passband Ripple <sup>4,6</sup>                             | -     | 0.6   | 1     | dB p-p   |
| Passband Ripple, Extended Temperature Range <sup>3,5</sup> | -     | 1.1   | 1.5   | dB p-p   |
| Phase Deviation from Linear <sup>3,5</sup>                 | -     | 9     | 14    | deg p-p  |
| Lower 38 dB Frequency <sup>5</sup>                         | 67.5  | 69.0  | -     | MHz      |
| Upper 38 dB Frequency <sup>5</sup>                         | -     | 106.7 | 107.5 | MHz      |
| Lower 40 dB Frequency <sup>4</sup>                         | 67.5  | 68.9  | -     | MHz      |
| Upper 40 dB Frequency <sup>4</sup>                         | -     | 106.9 | 107.5 | ns p-p   |
| Absolute Delay                                             | -     | 1.0   | 1.2   | us       |
| Source and Load Impedance                                  | -     | 50    | -     | $\Omega$ |
| Ambient Temperature                                        | 20    | 25    | 30    | °C       |

- Notes:
1. Average of lower and upper 3 dB frequencies (3 dB measured from peak).
  2. Measured at 87.5 MHz.
  3. Evaluated over 87.5 +/- 15 MHz.
  4. Limit met over Operating Temperature Range.
  5. Limit met over Extended Operating Temperature Range.
  6. Evaluated over 87.5 +/- 14.5 MHz.

## MAXIMUM RATINGS

| Parameter                            | Min | Max | Units |
|--------------------------------------|-----|-----|-------|
| Storage Temperature Range            | -40 | 85  | °C    |
| Operating Temperature Range          | 0   | 70  | °C    |
| Extended Operating Temperature Range | -20 | 85  | °C    |
| Operating Input Power Level          | -   | +10 | dBm   |

## MATCHING CIRCUIT



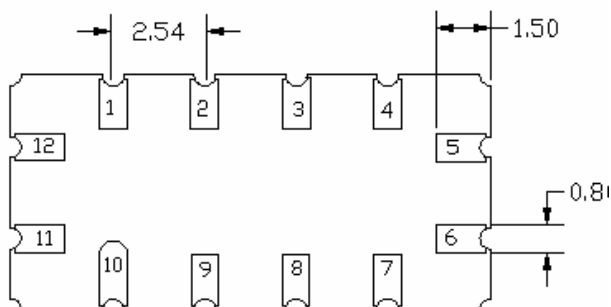
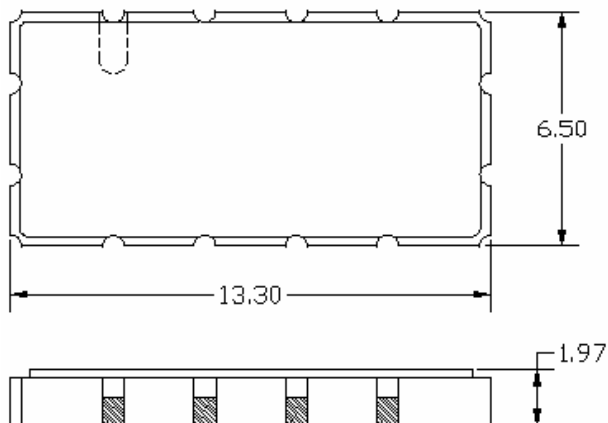
Typical component values:

$$\begin{aligned} Ls1 &= 91 \text{ nH} & Ls2 &= 120 \text{ nH} \\ Lp1 &= 100 \text{ nH} & Cp2 &= 22 \text{ pF} \end{aligned}$$

Notes:

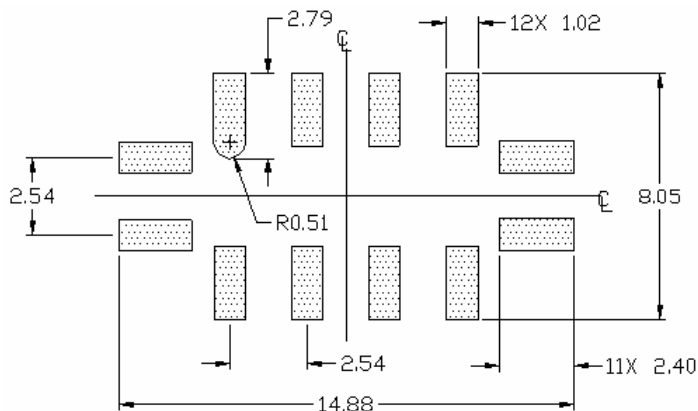
1. Recommend use of +/- 2% tolerance components. Minimum Q=40.
2. Component values are for reference only and may change depending on board layout.

## 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             |
| 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.  
 © 2010 All rights reserved.

**Spectrum Microwave**  
**400 Nickerson Road, Marlborough, MA 01752, USA • Phone 1-508-251-6400 • Fax 1-508-251-6401**  
**www.SpectrumMicrowave.com**

DSSF0088BA01993S Rev A 22-Feb-2010  
 ECN 36650 Page 3 of 3