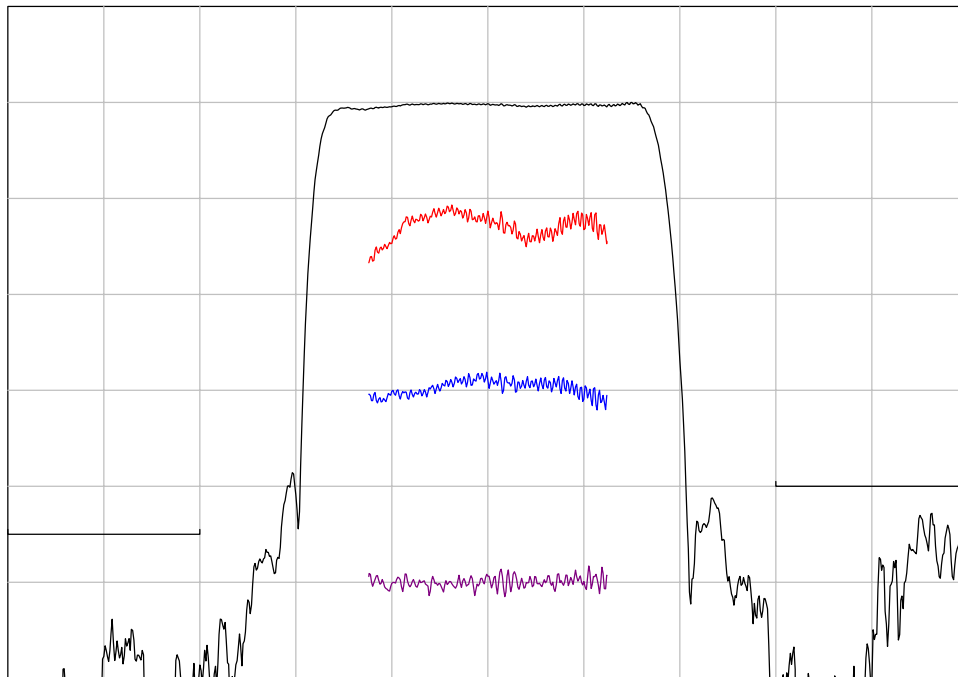


## DESCRIPTION

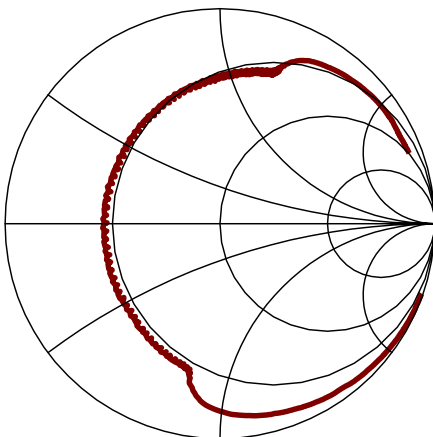
- 70 MHz SAW bandpass filter with 34 MHz bandwidth.
- 13.3 x 6.5 mm LCC package.
- RoHS compliant.

## TYPICAL PERFORMANCE

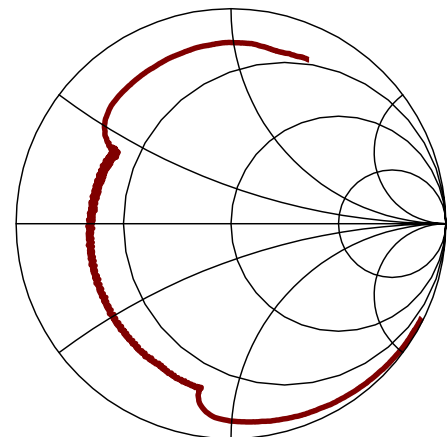


Horizontal: Frequency : 10 MHz/div  
 Vertical from Top: Relative Magnitude : 10 dB/div  
 Relative magnitude : 1 dB/div  
 Phase Linearity : 7 deg/div  
 Group Delay Deviation : 50 ns/div

**S11 (20 to 120 MHz)**



**S22 (20 to 120 MHz)**



## SPECIFICATION

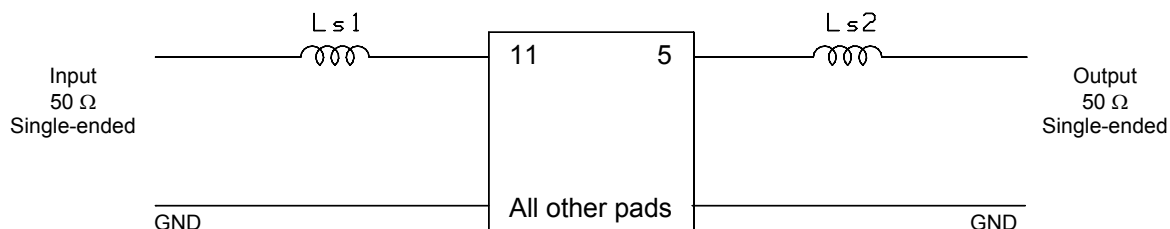
| Parameter                          | Min   | Typ   | Max   | Units   |
|------------------------------------|-------|-------|-------|---------|
| Center Frequency (Fc) <sup>1</sup> | 69.80 | 70.00 | 70.20 | MHz     |
| Insertion Loss                     | -     | 18.5  | 20    | dB      |
| 1 dB Bandwidth                     | 31.00 | 32.70 | -     | MHz     |
| 3 dB Bandwidth                     | 34.00 | 34.40 | -     | MHz     |
| 35 dB Bandwidth                    | -     | 40.4  | 54.00 | MHz     |
| Passband Ripple <sup>2</sup>       | -     | 0.7   | 1.0   | dB p-p  |
| Phase Ripple <sup>2</sup>          | -     | 3.8   | 7     | deg p-p |
| Group Delay Variation <sup>2</sup> | -     | 15    | 50    | ns p-p  |
| Absolute Delay                     | -     | 1.08  | 1.10  | us      |
| Rejection (20 MHz to 40 MHz)       | 45    | 54    | -     | dB      |
| Rejection (100 MHz to 120 MHz)     | 40    | 44    | -     | dB      |
| Source and Load Impedance          | -     | 50    | -     | ohms    |
| Ambient Temperature (Tref)         | -     | 25    | -     | °C      |

- Notes:
1. Average of the lower and upper 3 dB band edge frequencies.
  2. These are measured in the central 80% of the 3 dB bandwidth.
  3. 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)                        | 20  | 25  | 30  | °C     |
| Temperature Coefficient of Frequency (Tc) <sup>3</sup> | -   | -94 | -   | ppm/°C |
| Input Power Level                                      | -   | 10  | 13  | dBm    |

## MATCHING CIRCUIT



Typical component values:

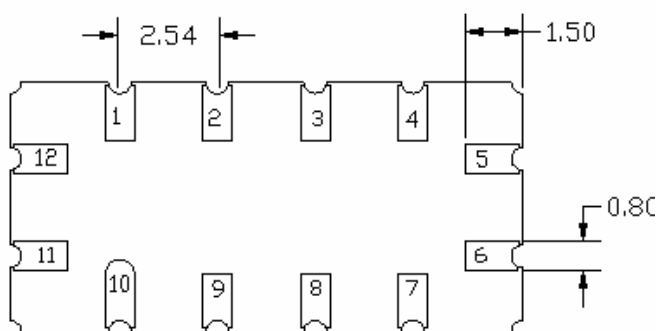
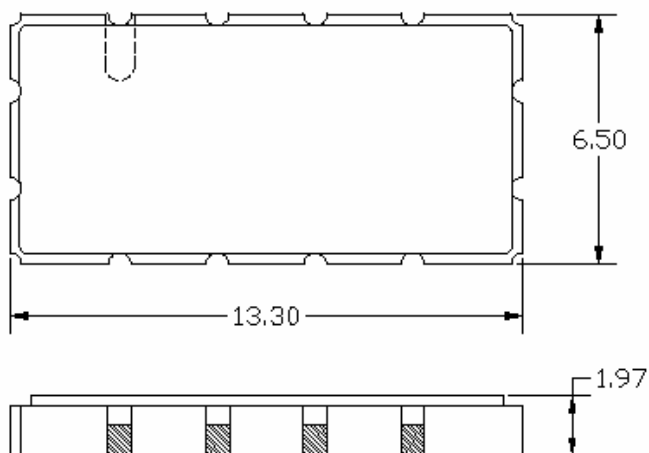
$$L_{s1} = 270 \text{ nH}$$

$$L_{s2} = 120 \text{ nH}$$

Notes:

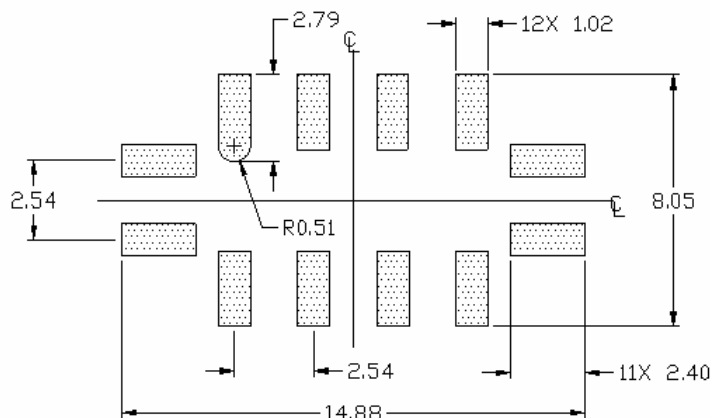
1. Recommend use of 2% tolerance matching components. Inductor Q=45.
2. Component values are for reference only and may change depending on board layout.

**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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