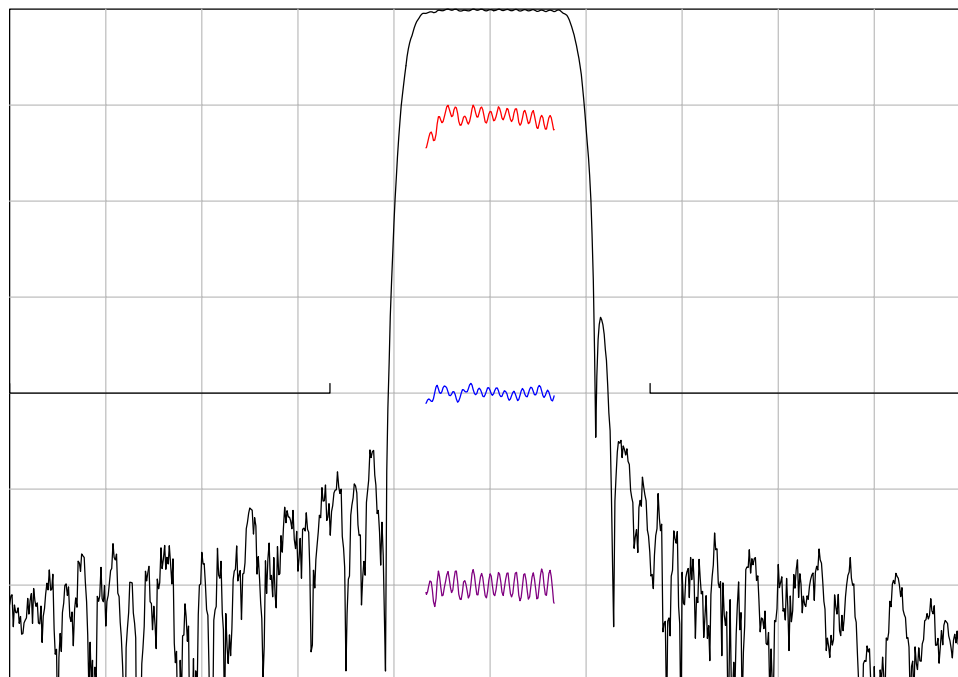


## DESCRIPTION

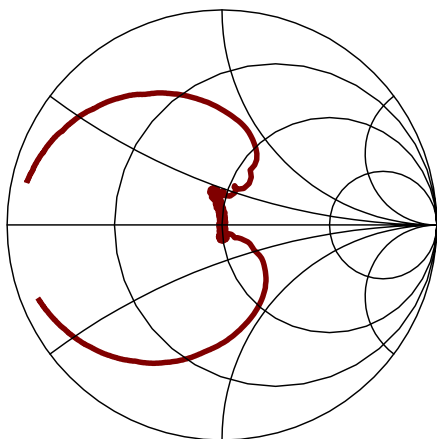
- 190 MHz SAW bandpass filter with 8 MHz bandwidth.
- 13.3 x 6.5 mm ceramic LCC package.
- RoHS compliant.

## TYPICAL PERFORMANCE

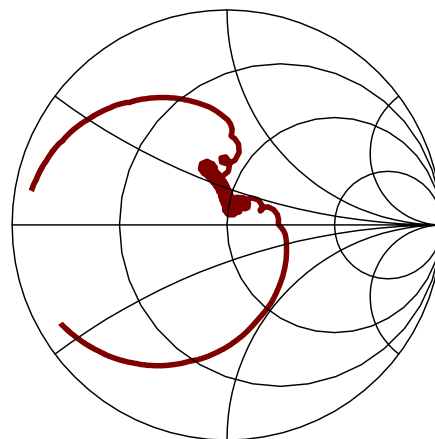


|                      |                       |     |          |
|----------------------|-----------------------|-----|----------|
| Horizontal:          | Frequency             | 6   | MHz /div |
| Vertical (from top): | Magnitude             | 10  | dB/div   |
|                      | Magnitude             | 1   | dB/div   |
|                      | Phase Deviation       | 10  | deg/div  |
|                      | Group Delay Deviation | 100 | ns/div   |

**S11 (160-220 MHz)**



**S22 (160-220 MHz)**



## SPECIFICATION

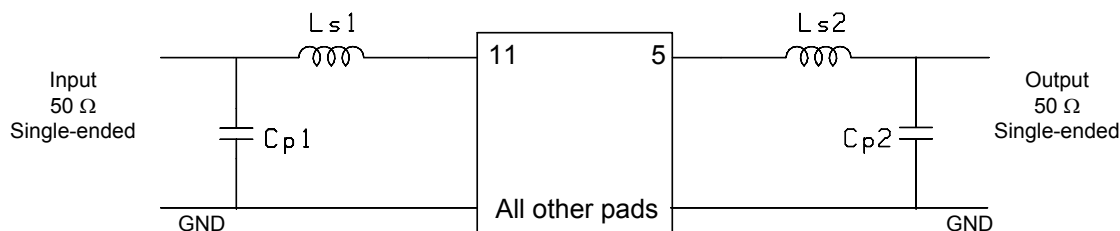
| Parameter <sup>2</sup>                 | Min   | Typ   | Max   | Units    |
|----------------------------------------|-------|-------|-------|----------|
| Center Frequency (Fc) <sup>1</sup>     | 189.6 | 190   | 190.4 | MHz      |
| Insertion Loss                         | -     | 12.9  | 14    | dB       |
| 1 dB Bandwidth                         | 8     | 9.36  | -     | MHz      |
| 3 dB Bandwidth                         | 10    | 10.21 | -     | MHz      |
| 30 dB Bandwidth                        | -     | 12.7  | 15    | MHz      |
| Rejection (100 to 180 MHz)             | 40    | 48    | -     | dB       |
| Rejection (200 to 275 MHz)             | 40    | 48    | -     | dB       |
| Passband Ripple (186 to 194 MHz)       | -     | 0.6   | 1.0   | dB p-p   |
| Phase Linearity (186 to 194 MHz)       | -     | 2.5   | 15    | deg p-p  |
| Group Delay Deviation (186 to 194 MHz) | -     | 40    | 120   | ns p-p   |
| Absolute Delay                         | -     | 0.94  | -     | us       |
| Temperature Coefficient of Fc          | -     | -18   | -     | ppm/°C   |
| Source and Load Impedance <sup>3</sup> | -     | 50    | -     | $\Omega$ |

- Notes:
1. All parameters are based upon matching circuit.
  2. All parameters are evaluated at ambient temperature only.
  3. Optimum impedance in order to achieve performance shown.

## MAXIMUM RATINGS

| Parameter                 | Min | Max | Units |
|---------------------------|-----|-----|-------|
| Storage Temperature Range | -40 | 85  | °C    |
| Input Power Level         | -   | +13 | dBm   |

## MATCHING CIRCUIT



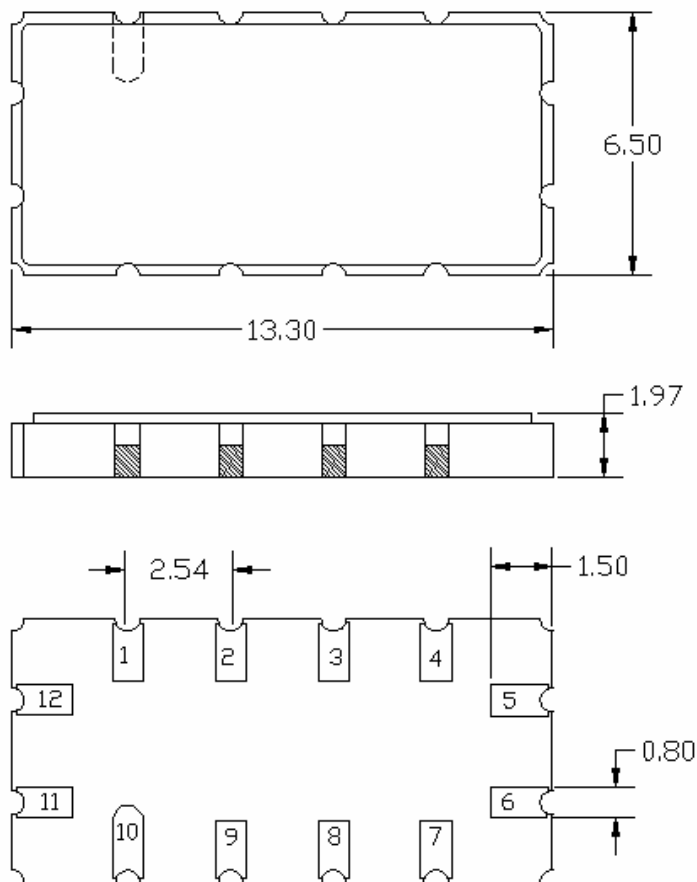
Typical component values:

|             |               |
|-------------|---------------|
| Ls1 = 68 nH | Ls2 = 62.8 nH |
| Cp1 = 39 pF | Cp2 = 39 pF   |

Notes:

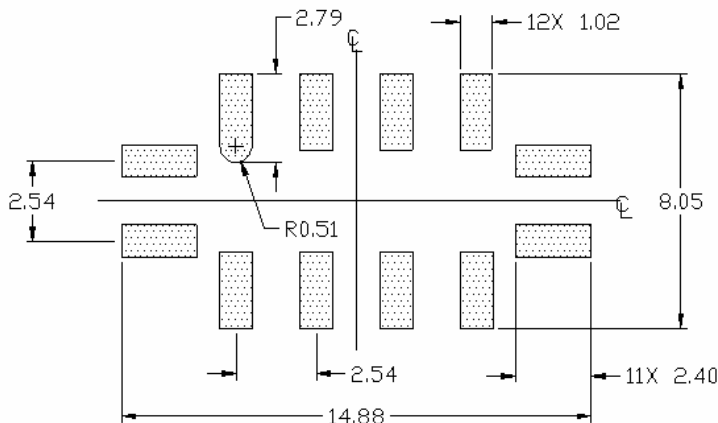
1. Recommend +/-2% tolerance matching components. Typical inductor Q=40.
2. Tuning values shown are for reference only. Optimum values may change depending upon board layout.

## 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.

### 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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