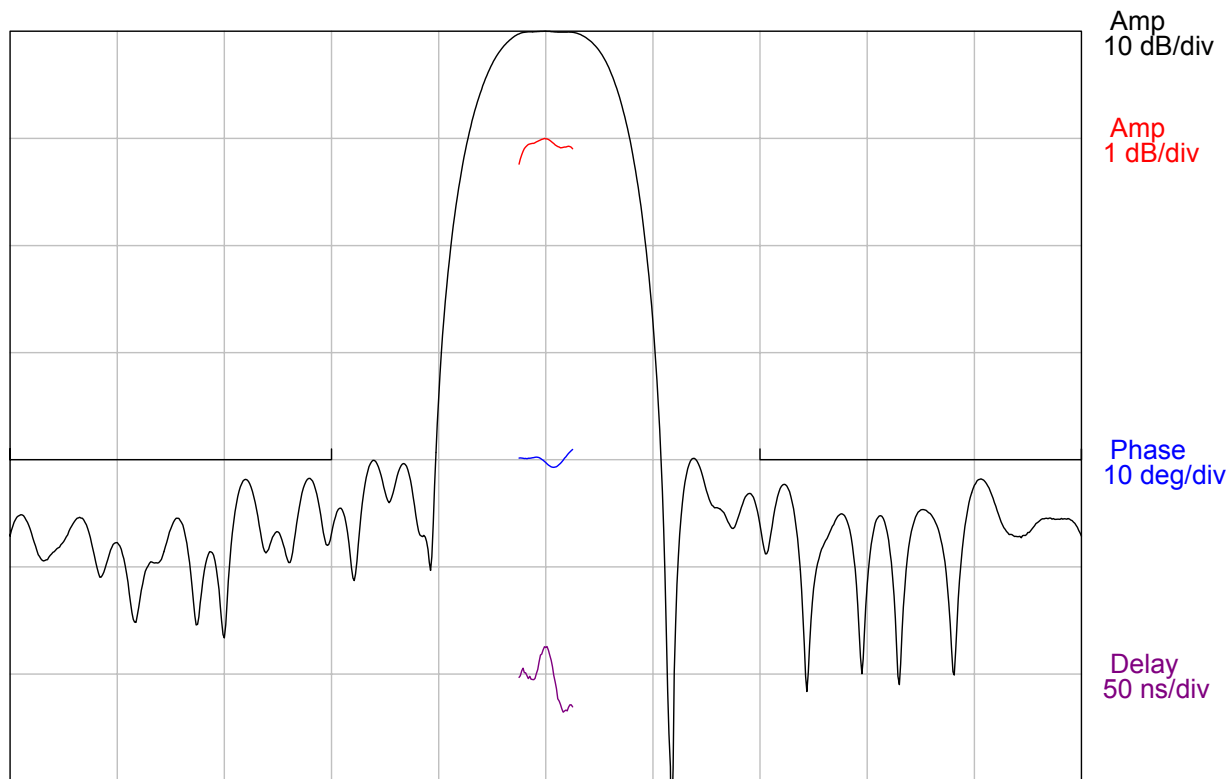


**DESCRIPTION**

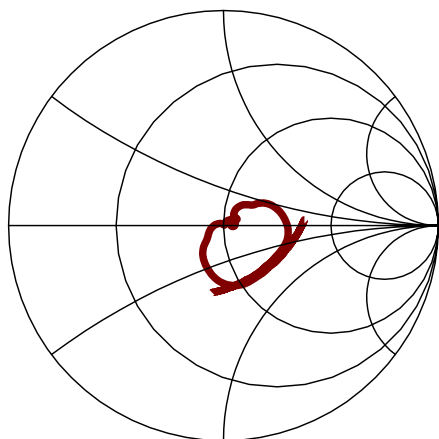
- 500 MHz SAW bandpass filter with 1 MHz bandwidth.
- 7 x 9 mm 11-pad LCC package.
- RoHS compliant.

**TYPICAL PERFORMANCE**

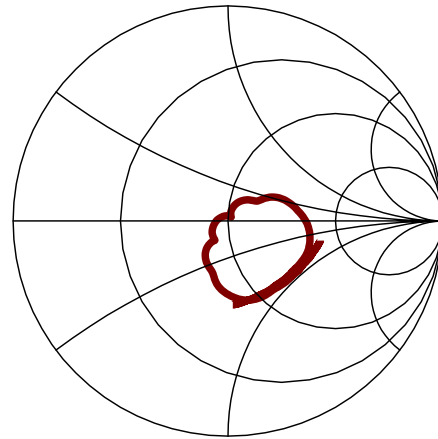


Center = 500 MHz, 2 MHz/div (25 kHz incr)

**S11 (490-510 MHz)**



**S22 (490-510 MHz)**



## SPECIFICATION

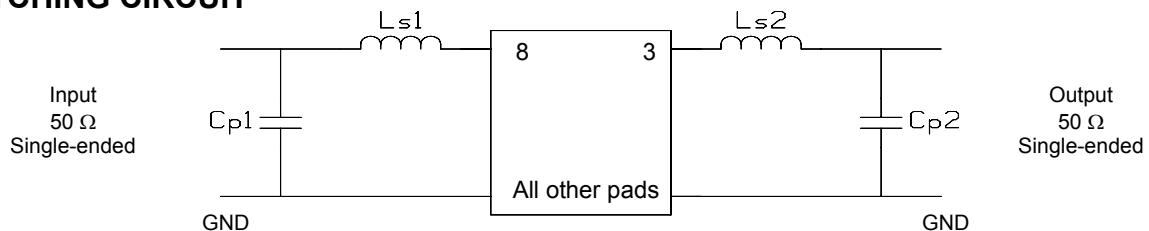
| Parameter   | Min    | Typ    | Max   | Units               |
|---|--------|--------|-------|---------------------|
| 3 dB Center Frequency, $F_c$                                | -      | 500    | -     | MHz                 |
| Minimum Insertion Loss                                      | -      | 11     | 14    | dB                  |
| Lower 1 dB Frequency <sup>1</sup>                           | -      | 499.29 | 499.5 | MHz                 |
| Upper 1 dB Frequency <sup>1</sup>                           | 500.5  | 500.85 | -     | MHz                 |
| 1 dB Bandwidth <sup>1</sup>                                 | 1      | 1.56   | -     | MHz                 |
| 3 dB Bandwidth <sup>1</sup>                                 | -      | 2.1    | -     | MHz                 |
| 40 dB Bandwidth <sup>1</sup>                                | -      | 5      | 8     | MHz                 |
| In-band Amplitude Variation                                 | -      | 0.4    | 1     | dB p-p              |
| In-band Group Delay Ripple                                  | -      | 35     | 100   | ns p-p              |
| Device Delay  | -      | 0.9    | -     | us                  |
| Relative Attenuation:                                       |        |        |       |                     |
| 10 to 496 MHz <sup>1</sup>                                  | 40     | 42     | -     | dB                  |
| 504 to 700 MHz <sup>1</sup>                                 | 40     | 42     | -     | dB                  |
| 700 to 1000 MHz <sup>1</sup>                                | 38     | 40     | -     | dB                  |
| Temperature Coefficient of Frequency ( $T_c$ ) <sup>2</sup> | -0.032 |        |       | ppm/°C <sup>2</sup> |
| Source/Load Impedance                                       | 50     |        |       | ohms                |
| Ambient Temperature ( $T_{ref}$ )                           | 25     |        |       | °C                  |

- Notes:
1. All dB levels are referenced to the insertion loss.
  2. Typical shift of frequency response with temperature is:  $\Delta f = (T - T_{ref}) * T_c * F_c$ .

## MAXIMUM RATINGS

| Parameter                       | Min | Max | Units |
|---------------------------------|-----|-----|-------|
| Storage Temperature Range       | -45 | 85  | °C    |
| Operating Temperature Range (T) | -20 | 70  | °C    |
| Input Power Level               | -   | 10  | dBm   |

## MATCHING CIRCUIT

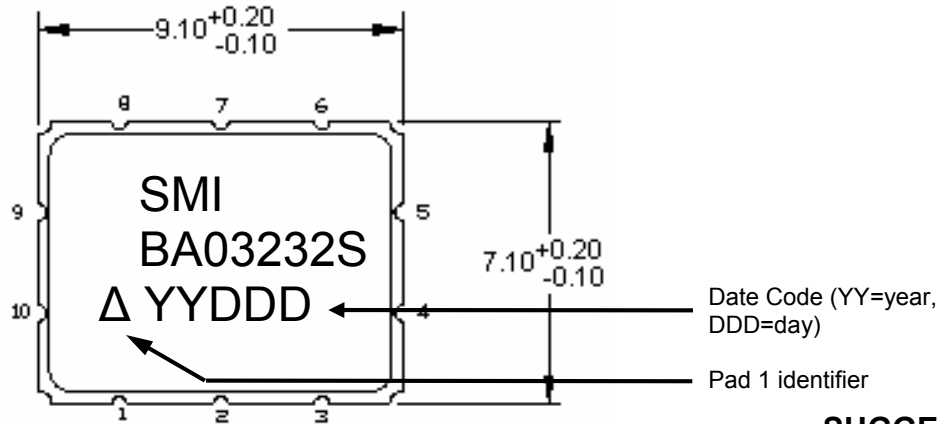


$$L_{s1} = 8.2 \text{ nH}, C_{p1} = 15 \text{ pF}, L_{s2} = 10 \text{ nH}, C_{p2} = 14 \text{ pF}$$

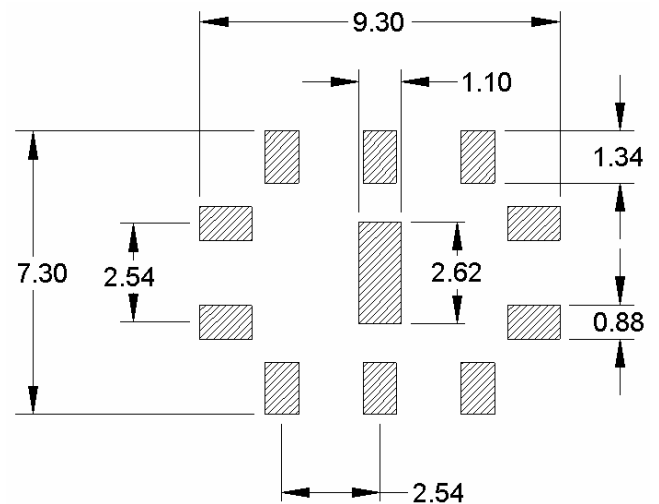
Notes:

- Recommend 2% tolerance matching components. Typical inductor Q=40.
- Matching values are for reference only. Actual values are dependent upon board layout.

**PACKAGE OUTLINE**



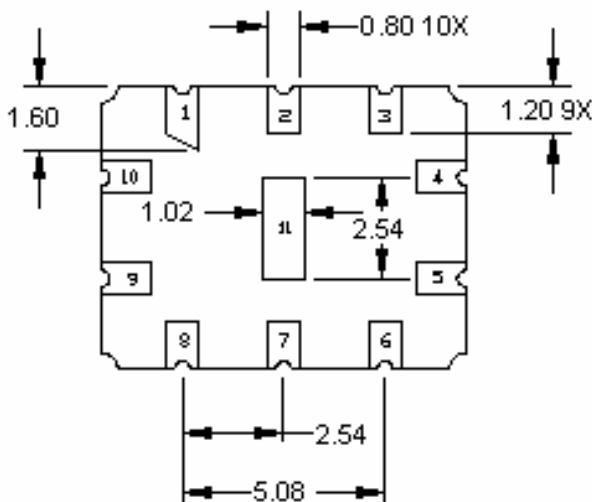
**SUGGESTED FOOTPRINT**



Tolerances are typically  $\pm 0.15$  mm except where indicated.

**Pad Configuration:**

Input: 8  
Output: 3  
Ground: All other pads



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

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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