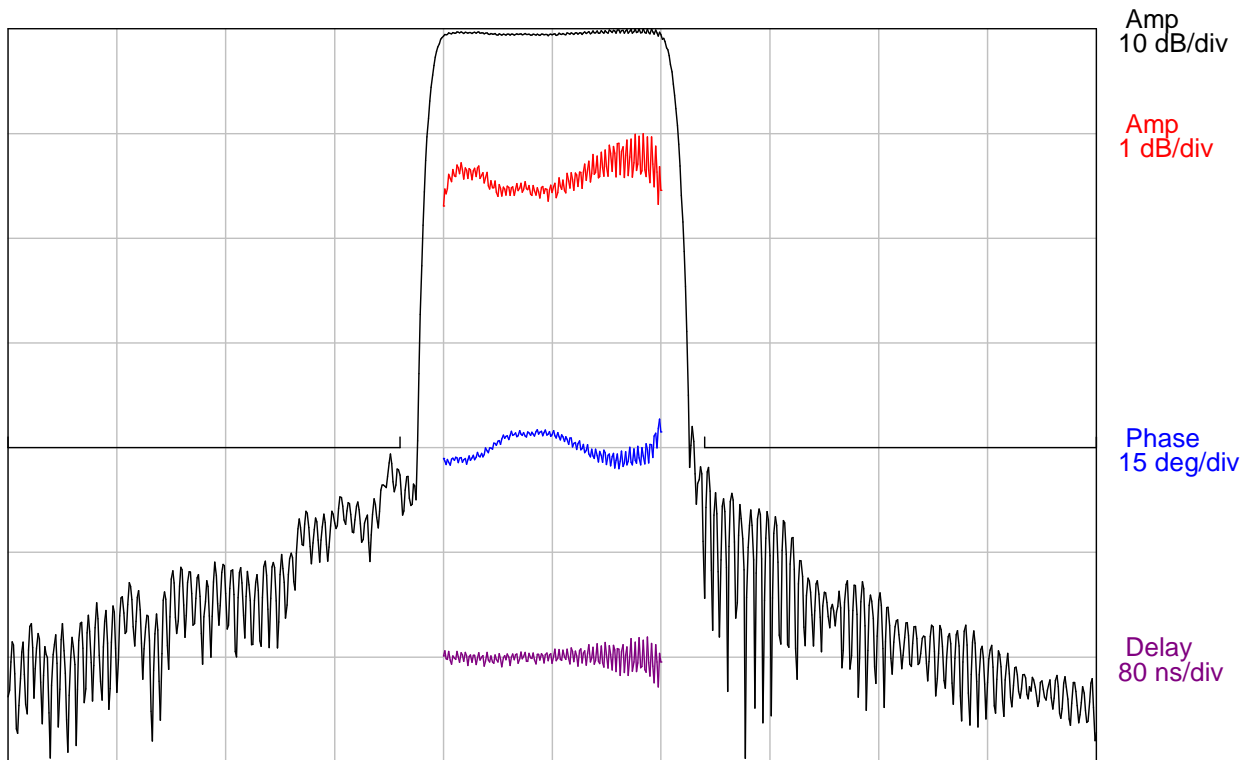


**DESCRIPTION**

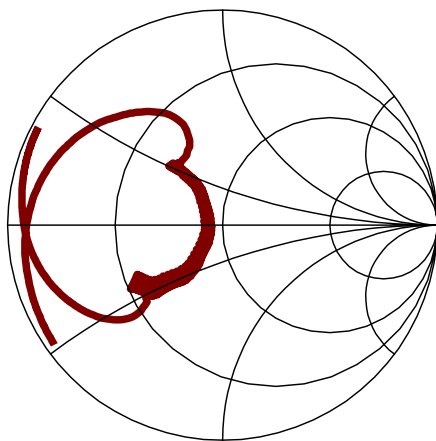
- 216 MHz SAW bandpass filter with 40 MHz Bandwidth.
- 7 x 5 mm ceramic LCC package with 12 pads.
- RoHS compliant.

**TYPICAL PERFORMANCE**

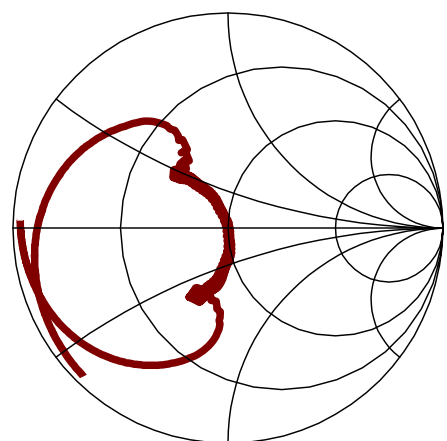


Center = 216 MHz, 20 MHz/div (250 kHz incr)

**S11 (116-316 MHz)**



**S22 (116-316 MHz)**



## SPECIFICATION

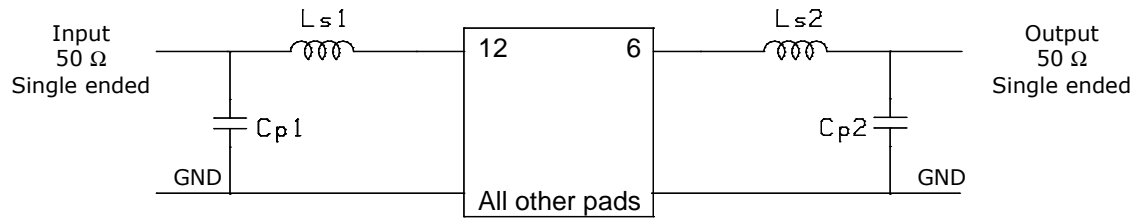
Parameter <sup>1</sup>	Min	Typ	Max	Units
Center Frequency, ( F <sub>C</sub> ) <sup>1</sup>	-	216	-	MHz
Minimum Insertion Loss <sup>4</sup>	-	13.5	14	dB
Absolute Delay	-	0.65	-	us
1 dB bandwidth <sup>2</sup>	40	41.1	-	MHz
1 dB bandwidth <sup>2,3</sup>	37	41.1	-	MHz
Lower 1 dB Frequency <sup>2</sup>	-	195.52	196	MHz
Upper 1 dB Frequency <sup>2</sup>	236	236.58	-	MHz
Lower 1 dB Frequency <sup>2,3</sup>	-	196.6	197.5	MHz
Upper 1 dB Frequency <sup>2,3</sup>	234.5	238.8	-	MHz
Lower 40 dB Frequency <sup>2</sup>	188	191.2	-	MHz
Upper 40 dB Frequency <sup>2</sup>	-	241.2	244	MHz
Lower 40 dB Frequency <sup>2,3</sup>	186	191.2	-	MHz
Upper 40 dB Frequency <sup>2,3</sup>	-	244.2	246	MHz
Passband Ripple (F <sub>c</sub> ±20 MHz)	-	0.7	1	dB p-p
Phase Ripple (F <sub>c</sub> ±20 MHz)	-	7	8	deg p-p
Group Delay Ripple (F <sub>c</sub> ±20 MHz)	-	40	80	ns p-p
Passband Ripple (F <sub>c</sub> ±18.5 MHz) <sup>3</sup>	-	1.3	1.5	dB p-p
Phase Ripple (F <sub>c</sub> ±18.5 MHz) <sup>3</sup>	-	5	8	deg p-p
Group Delay Ripple (F <sub>c</sub> ±18.5 MHz) <sup>3</sup>	-	40	80	ns p-p
Stopband Rejection (116-188 MHz) <sup>2</sup>	40	45	-	dB
Stopband Rejection (244-316 MHz) <sup>2</sup>	40	45	-	dB
Stopband Rejection (116-186 MHz) <sup>2,3</sup>	40	43	-	dB
Stopband Rejection (246-316 MHz) <sup>2,3</sup>	40	43	-	dB
Second Harmonic Rejection <sup>2</sup>	40	42	-	dB
Third Harmonic Rejection <sup>2</sup>	43	>48	-	dB
Temperature Coefficient of Frequency		-86		ppm/°C
Source and Load Impedance		50		ohms
Ambient Temperature		42.5		°C

- Notes:
1. Reference frequency at 42.5°C; computed as mean of the 3 dB frequencies.
  2. dB values are referenced to the insertion loss value.
  3. Over a temperature range of -40°C to 85°C.
  4. Insertion Loss limit is 14.5 dB above 55°C.

## MAXIMUM RATINGS

Parameter	Min	Max	Units
Storage Temperature Range	-40	85	°C
Operating Temperature Range <sup>1</sup>	0	85	°C
Input Power Level	-	+13	dBm

**MATCHING CIRCUIT**

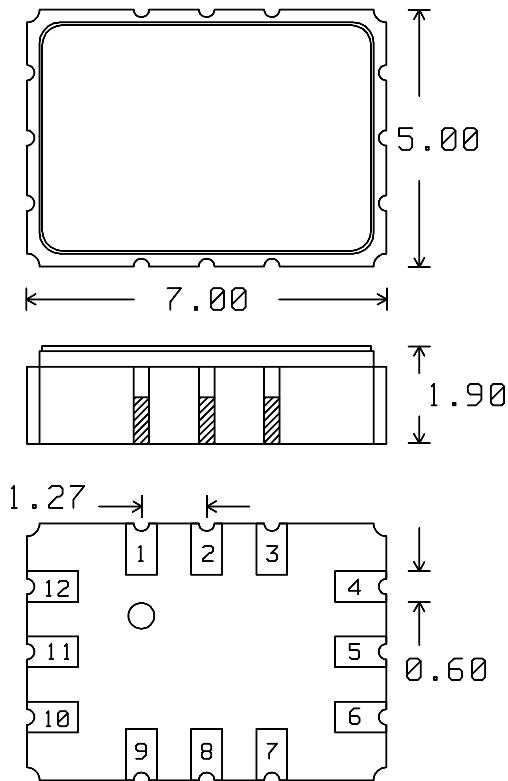


$Ls1 = 56 \text{ nH}$ ,  $Cp1 = 27 \text{ pF}$ ,  $Ls2 = 56 \text{ nH}$ ,  $Cp2 = 24 \text{ pF}$

Notes:

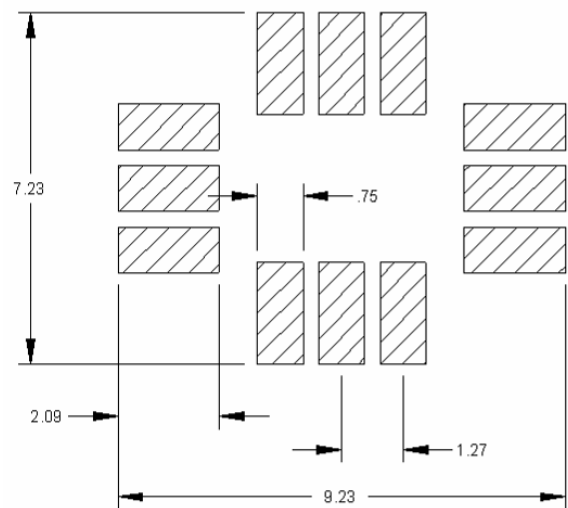
- Recommend  $\pm 2\%$  toleranced matching components. Typical inductor  $Q=40$ .
- Values shown are for reference only. Actual values are dependent upon board layout.

**PACKAGE OUTLINE**



Package Material:  
 Body:  $Al_2O_3$  ceramic  
 Lid: Kovar, Ni plated  
 Terminations: Au plating 1  $\mu\text{m}$  min,  
 over a 1.3-8.9  $\mu\text{m}$  Ni plating

**SUGGESTED FOOTPRINT**



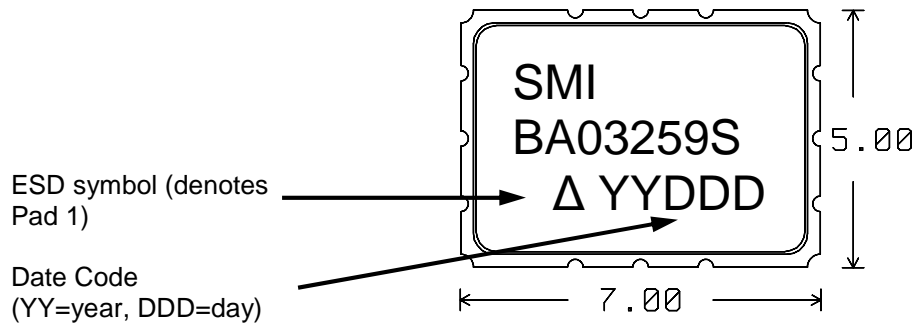
Units: mm

Tolerances are  $\pm 0.15 \text{ mm}$  except for the overall length and width, which are nominal values.

**Pad Configuration:**

Input:	12
Input return:	10
Output:	6
Output return:	4
Ground:	All other pads

**MARKING**



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, Inc.**  
**400 Nickerson Road, Marlborough, MA 01752, USA • Phone 508-251-6400 • Fax 508-251-6401**  
[www.SpectrumMicrowave.com](http://www.SpectrumMicrowave.com)

DSSF0216BA03259S Rev - 12 -Oct-10  
ECN 292-MAR Page 4 of 4