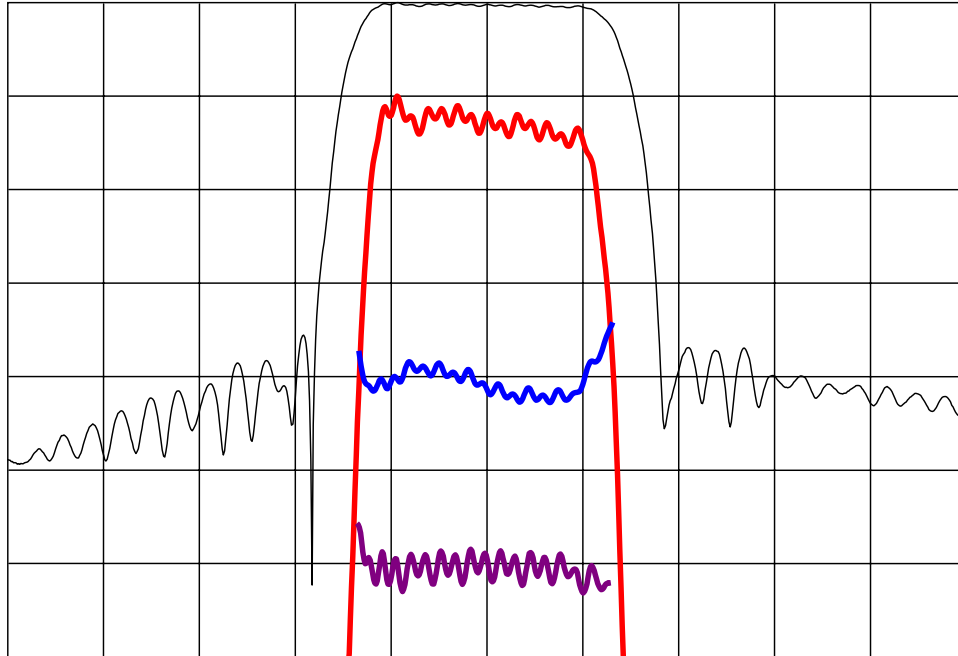


## DESCRIPTION

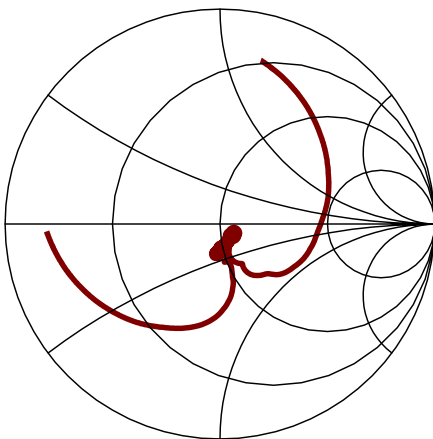
- 172.8 MHz SAW bandpass filter with 9 MHz bandwidth.
- 5 x 7 mm LCC package with balanced tuning in a 200Ω system.
- RoHS compliant.

## TYPICAL PERFORMANCE

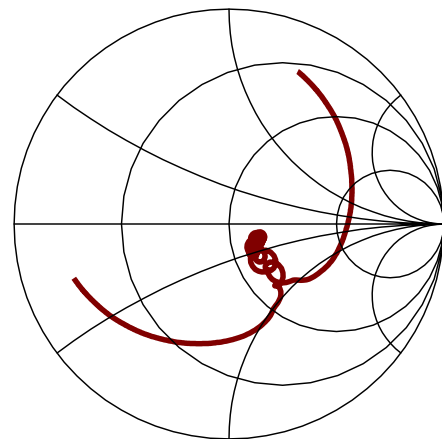


Horizontal: Frequency : 4 MHz/div  
Vertical from Top: Relative Magnitude : 10 dB/div  
Relative magnitude : 1 dB/div  
Phase Linearity : 10 deg/div  
Group Delay Deviation : 100 ns/div

**S11 (152.8-192.8 MHz)**



**S22 (152.8-192.8 MHz)**



## SPECIFICATION

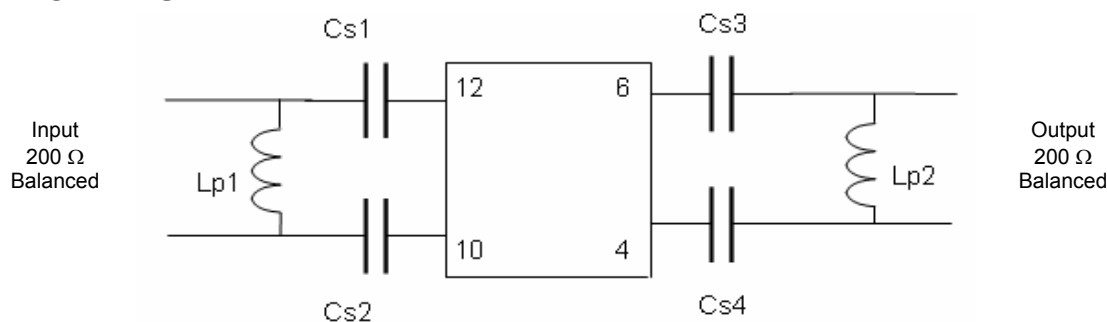
Parameter	Min	Typ	Max	Units
Center Frequency ( Fc ) <sup>1</sup>	-	172.8	-	MHz
Insertion Loss at Fc	-	11	14	dB
Amplitude Ripple (Over Fc ± 3.5 MHz)	-	0.6	1.5	dB p-p
Group Delay Ripple (over Fc ± 4.42 MHz)	-	70	200	ns p-p
Phase Ripple ( over Fc ± 4.42 MHz)	-	9	-	deg. p-p
1.5 dB Bandwidth	8.84	9.2	-	MHz
Rejection: Fc± 7.5 to Fc± 10 MHz <sup>2</sup>	30	33	-	dB
Rejection: Fc± 10 to Fc± 20 MHz <sup>2</sup>	35	40	-	dB
Rejection: Fc± 20 to Fc± 50 MHz <sup>2</sup>	45	48	-	dB
Rejection: Fc± 50 to Fc± 100 MHz <sup>2</sup>	35	40	-	dB
VSWR over Fc ± 4.42 MHz	-	2.2	2.5	:1
Source / Load Impedance	200Ω balanced			-
Ambient Temperature (Tref)	-	25	-	°C

- Notes:
1. Fixed frequency reference.
  2. Relative to the insertion loss at Fc.
  3. Specification applies over the full operating temperature range.
  4. Typical change of filter frequency response with temperature is  $\Delta f = (T-T_{ref}) \cdot T_c \cdot F_c$ , in ppm.

## MAXIMUM RATINGS

Parameter	Min	Typ	Max	Units
Storage Temperature Range	-40	25	85	°C
Operating Temperature Range (T)	-40	25	85	°C
Temperature Coefficient of Frequency (Tc) <sup>4</sup>	-	-23	-	ppm/°C
Input Power Level	-	10	13	dBm

## MATCHING CIRCUIT



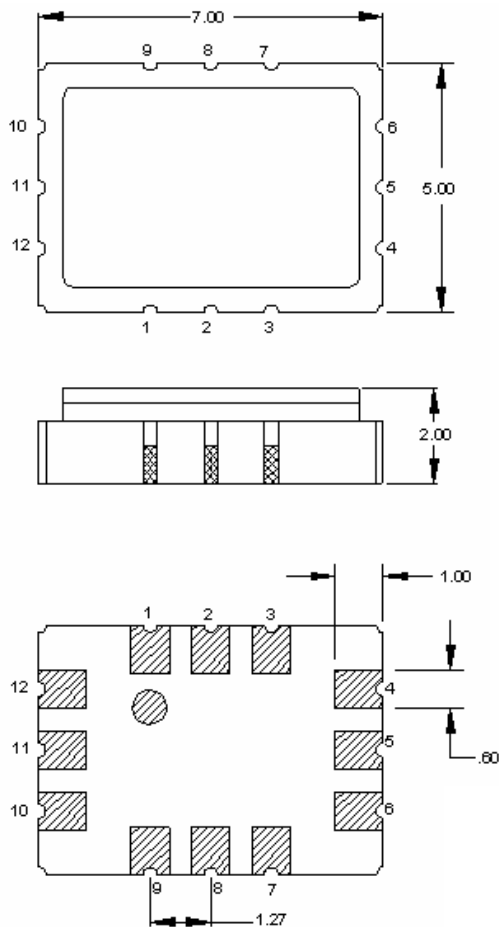
Typical component values:

Cs1 =	82	pF	Cs2 =	82	pF
Cs3 =	91	pF	Cs4 =	91	pF
Lp1 =	33	nH	Lp2 =	39	nH

Notes:

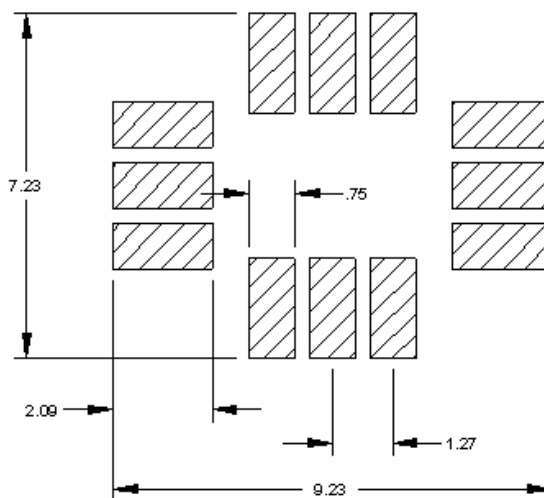
1. Recommend use of 2% tolerance matching components. Inductor Q=45.
2. Component values are for reference only and may change depending on board layout.

**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 + : 12
- Input - : 10
- Output + : 6
- Output - : 4
- Ground : 1,2,3,5,7,8,9,11

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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