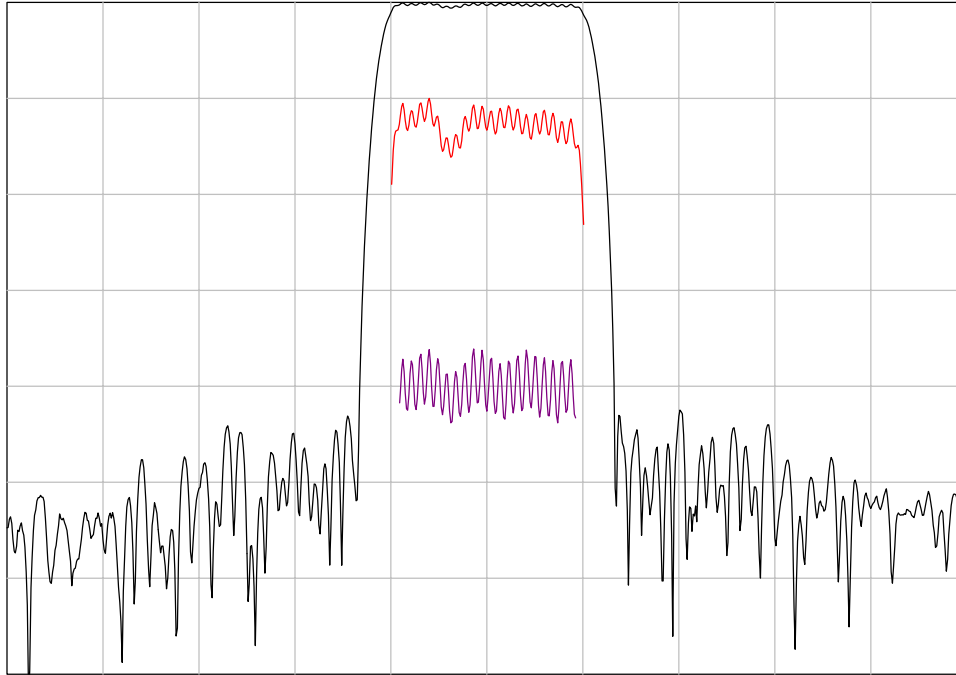


DESCRIPTION

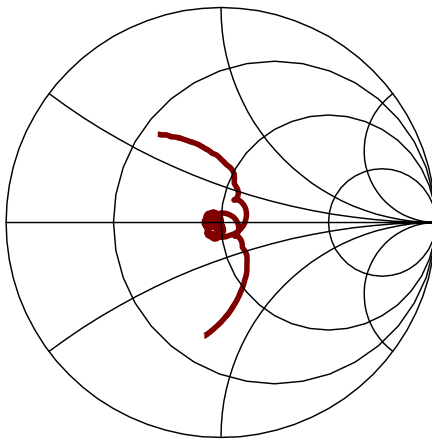
- 150 MHz SAW bandpass filter with 5.7 MHz bandwidth.
- 13.3 x 6.5 mm SMP.
- RoHS compliant.

TYPICAL PERFORMANCE

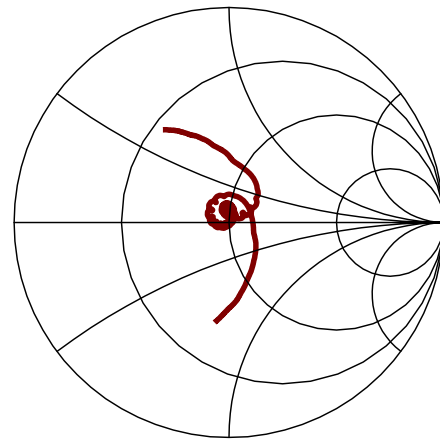


Horizontal: Frequency : 2.5 MHz/div
 Vertical from Top: Relative Magnitude : 10 dB/div
 Relative magnitude : 1 dB/div
 Group Delay Deviation : 150 ns/div

S11



S22



SPECIFICATION

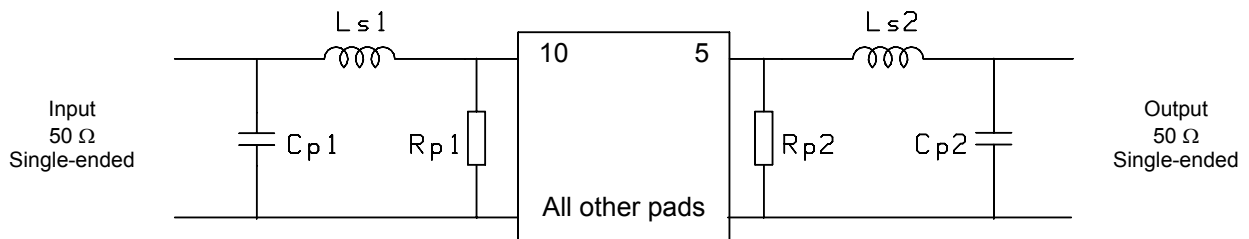
Parameter ¹	Min	Typ	Max	Units
Center Frequency (F_c) ²	149.875	150.025	150.175	MHz
Insertion Loss ⁴	-	19.3	21	dB
1 dB Bandwidth ³	5.7	5.95	-	MHz
3 dB Bandwidth ³	6.1	6.42	-	dB
40 dB Bandwidth ³	-	7.95	8.3	dB
Stopband Rejection (25 to 135 MHz)	45	54	-	dB
Stopband Rejection (165 to 2000 MHz)	45	53	-	dB
Passband Amplitude Variation ($F_c \pm 2.75$ MHz)	-	0.67	0.8	dB p-p
Passband Group Delay Variation ($F_c \pm 2.75$ MHz) ⁵	-	115	150	ns p-p
Absolute Delay	-	1.81	2.0	us
Input and Output Return Loss ($F_c \pm 2.75$ MHz) ⁵	-	1.3	1.8	:1
Source and Load Impedance	-	50	-	Ω
Ambient Temperature	-	25	-	$^{\circ}\text{C}$

- Notes:
1. All electrical specifications apply over the full operating temperature range and include allowance for all manufacturing tolerance.
 2. Defined as the mean of the 10 dB frequencies.
 3. dB levels are taken to be relative to the insertion loss.
 4. Measured at the maximum level (lowest insertion loss) of the response.
 5. When matched as indicated below.

MAXIMUM RATINGS

Parameter	Min	Max	Units
Storage Temperature Range	-45	85	$^{\circ}\text{C}$
Operating Temperature Range	-10	50	$^{\circ}\text{C}$
Input Power Level	-	20	dBm
D.C. Voltage between Each Terminal	-	15	V
ESD Level	Human Body Model: 1000 V Machine Model: 200 V		

MATCHING CIRCUIT



Typical component values:
(Minimum inductor Q = 40)

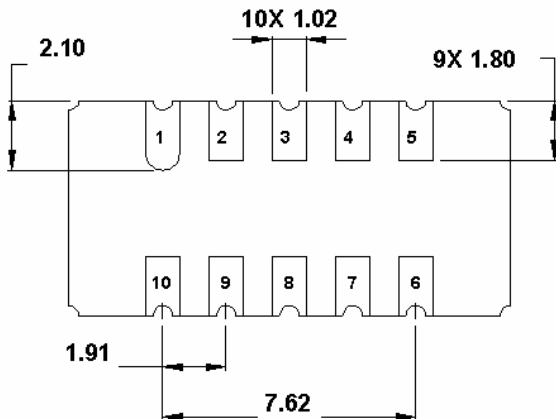
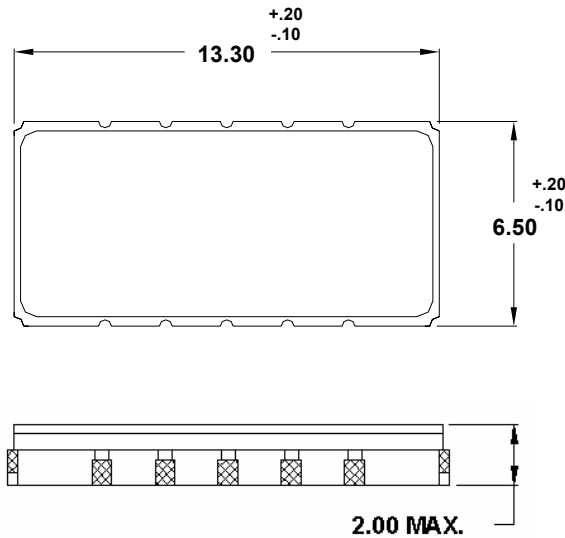
$$\begin{aligned} L_{s1} &= 39 \text{ nH} \\ C_{p1} &= 47 \text{ pF} \\ R_{p1} &= 220 \text{ } \Omega \end{aligned}$$

$$\begin{aligned} L_{s2} &= 33 \text{ nH} \\ C_{p2} &= 50 \text{ pF} \\ R_{p2} &= 130 \text{ } \Omega \end{aligned}$$

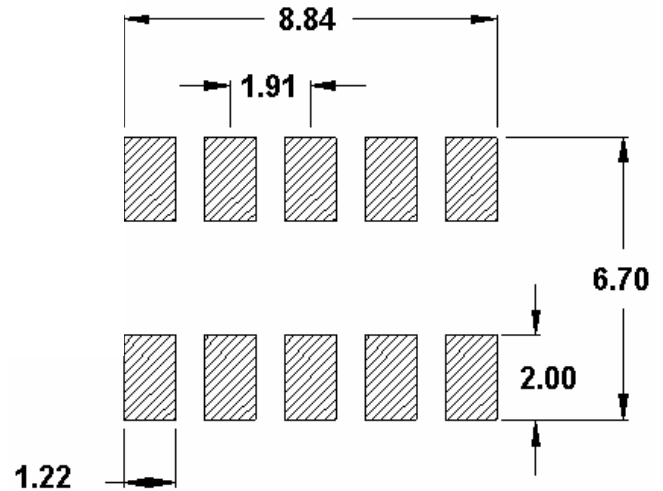
Notes:

1. Required component tolerances: resistors +/-5%, inductors +/-2%, capacitors +/-5%
2. Component values shown are for guidance only and may change depending on board layout.

PACKAGE OUTLINE



SUGGESTED FOOTPRINT



Units: mm

Tolerances are ± 0.15 mm except for the overall length and width, which are nominal values.

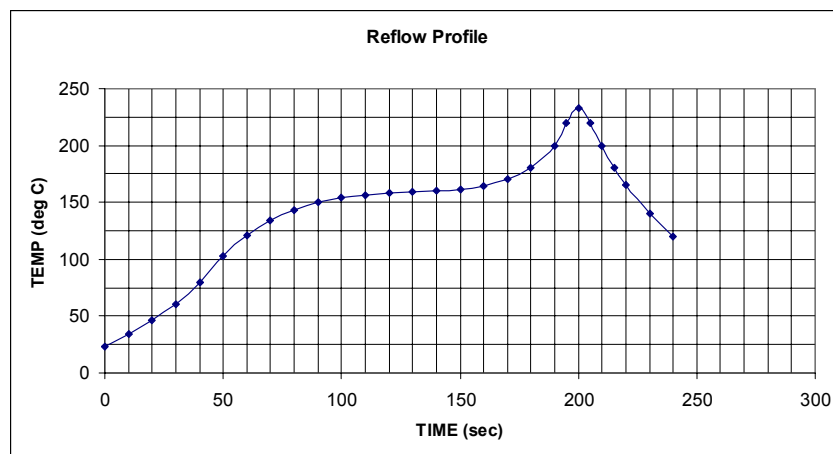
Pad Configuration:

Input: 10
Output: 5
Ground: 1,2,3,4,6,7,8,9

Package Material:
Body: Al_2O_3 ceramic
Lid: Kovar, Ni plated
Terminations: Au plating 1 μ m min,
over a 1.3-8.9 μ m Ni plating

PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS

Parameter	Qualification Conditions
Life Testing	High temperature bake at +85 °C for 168 hours.
Temperature Cycling	MIL-STD 883, Method 1010: -40 °C to +85 °C, 10 cycles, 10 minutes dwell at temperature extremes
Vibration	MIL-STD-202, Method 201A: 10 to 55 Hz, double amplitude of 0.06" for 2 hours in each axis.
Mechanical Shock	MIL-STD-883, Method 2002, Test Condition B: 1500 g, 3 impacts each axis
Solder Heat Resistance and Reflow Condition	Peak temperature 240+/-5 °C for 10 seconds. Pre-heat: 150-170 °C for 60 to 90 seconds. Peak dwell: over 200 °C for 23 to 26 seconds. Handling: Class 1 per MIL-STD-1686 Reflow Profile is shown at the bottom of this table.
Lead Integrity	MIL-STD 883 Method 2004, Condition D 8 oz for 30 seconds.
Solderability	MIL-STD-883 Method 2003: 245 °C +/-5 °C; 95% coverage; no steam aging
Hermeticity	MIL-STD 883 Method 1014: Condition A2 and Condition C (no bomb)
ESD Classification	Class I per MIL-STD-883 Method 3015; Ensure ESD shielding bag is used during transportation processes; Personal grounding must be worn at all times when handling the device.
Precautions	Do not subject devices to ultrasonic cleaning, which may cause deterioration and destruction of the device.



ISO 9001
Registered

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