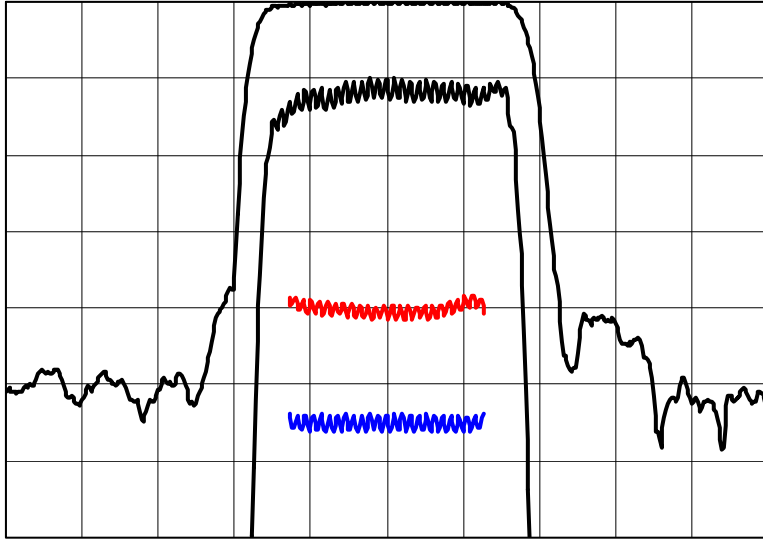


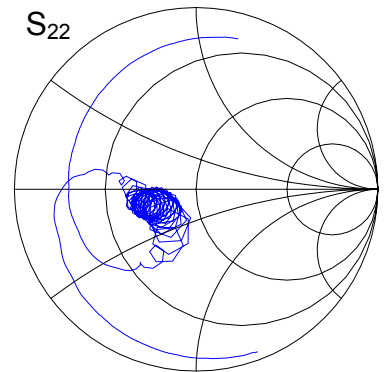
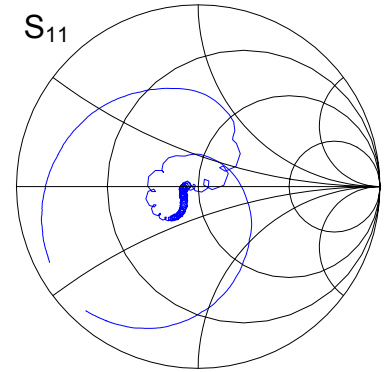
**DESCRIPTION**

- 140 MHz SAW bandpass filter with 16 MHz bandwidth in 13.3x6.5mm SMP.
- RoHS compliant.

**TYPICAL PERFORMANCE**



Horizontal :	Frequency	5	MHz / div
Vertical (from top)	Magnitude	10	dB/div
	Magnitude	1	dB/div
	Phase Deviation	10	deg/div
	Group Delay Deviation	200	ns/div



Input and Output Impedances  
Frequency Span : 100-180 MHz



Wide Band Response  
Frequency Span : 0-500 MHz  
Vertical Scale : 10 dB/div

## SPECIFICATION

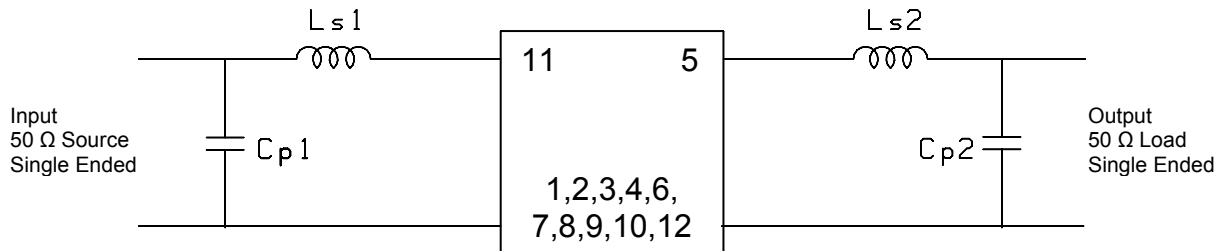
Parameter	Min	Typ	Max	Units
Center Frequency (Fc) <sup>1</sup>	139.6	140	140.4	MHz
Insertion Loss <sup>2</sup>		8.2	11	dB
1 dB Bandwidth	15	16.4		MHz
3 dB Bandwidth	16	17.4		MHz
35 dB Bandwidth		21.1	22	MHz
Passband Ripple <sup>3</sup>		0.43	1	dB p-p
Phase Deviation from Linear <sup>3</sup>		3	14	deg p-p
Group Delay Variation <sup>3</sup>		45	160	ns p-p
Absolute Delay		0.94		µs
Ultimate Rejection <sup>4</sup>	40	44		dB
Substrate	Lithium Niobate			
Temperature Coefficient of Frequency		-90		ppm/°C
Ambient Temperature		25		°C
System Source and Load Impedance		50		Ω

- Notes:
1. Average of the lower and upper 3 dB frequencies.
  2. Average level in the passband.
  3. Evaluated over 80% of the 3dB bandwidth (i.e.  $F_c \pm 6.4$  MHz).
  4. Evaluated over the intervals 20 – 124 MHz and 156 – 280 MHz.

## MAXIMUM RATINGS

Parameter	Min	Max	Units
Storage Temperature Range	-40	+85	°C
Input Power Level		+17	dBm
DC Voltage Between Each Terminal		15	V

## MATCHING CIRCUIT



Component values (minimum inductor Q = 45):

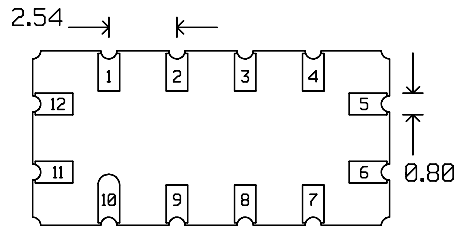
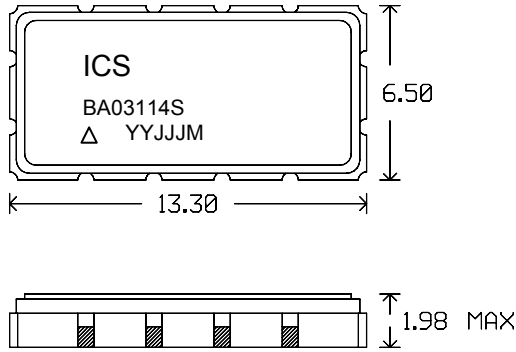
$$L_{s1} = 100 \text{ nH} \quad C_{p1} = 33 \text{ pF} \quad L_{s2} = 120 \text{ nH} \quad C_{p2} = 0 \text{ pF (not used)}$$

Notes:

1. The component values shown above are those used in the Micro Networks test fixture. Optimum values may change depending on board layout.  $C_{p2}$  may be a capacitor or an inductor.
2. 5% tolerance components or better are recommended.

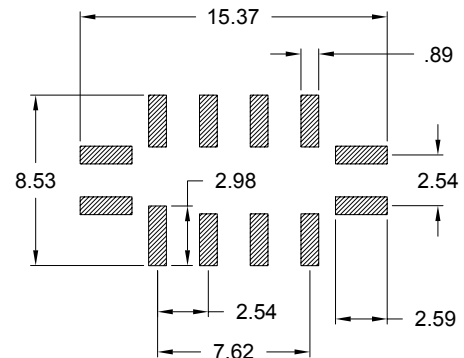
## PACKAGE OUTLINE AND RECOMMENDED PCB LAYOUT

### PACKAGE INFORMATION



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

### RECOMMENDED PCB FOOTPRINT



#### Pin Configuration:

11	Input
12	Input Return
5	Output
6	Output Return
All Others	Ground

#### NOTE:

Dimensions shown are all nominal in millimetres. All tolerances are  $\pm 0.15$  mm except overall length and width.

ISO 9001  
Registered

All specifications are believed to be accurate and reliable. However, MNC reserves the right to make changes without notice.  
© 2005 All rights reserved.