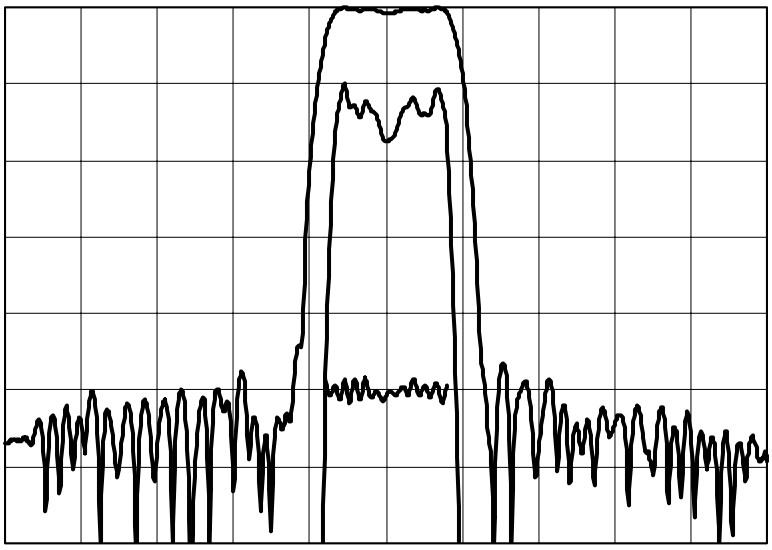
Micro Networks
An Integrated Circuit Systems Company

300 MHz Filter

Part Number
SF0300BA01973S

Micro Networks Corp., 324 Clark Street, Worcester, MA 01606, USA tel: 508-852-5400, fax:508-852-8456, www.micronetworks.com

TYPICAL PERFORMANCE



Horizontal: 2 MHz/div Vertical (from top): 10 dB/div
1 dB/div
200 ns/div

SPECIFICATION

NOTE – All electrical specifications apply at room temperature (23 °C) only.

PARAMETER	Min	Typ	Max	Units
Center Frequency (F_C) [1]	299.935	300.010	300.085	MHz
Insertion Loss [2]		15	19	dB
3dB Bandwidth [3 4]	3.2	3.3		MHz
40dB Bandwidth [3 4]		4.6	4.7	MHz
Ultimate rejection at F_C +/-(6 to 40) MHz [4]	45	50		dB
Average Passband Delay		1.67	1.8	μs
Passband Amplitude Ripple [3 5]		0.75	1.0	dB p-p
Passband Group Delay Ripple [3 6]		70	200	ns p-p
Passband Phase Linearity [3 6]		3	10	deg p-p
Return Loss at Input and Output [3 6]	10			dB
Triple Transit Suppression	40	46		dB
Source and Load Impedance		50		Ω
Frequency change with Temperature ($T_C \approx 20$ °C)		$-0.009(T-T_C)^2$		kHz / °C^2
Operating Temperature Range	-30		+70	°C
Storage Temperature Range	-40		+85	°C

Notes:

1. Center frequency is defined as the mean of the upper and lower 3dB points. The typical room temperature center frequency may be offset from 300 MHz to allow for frequency change with temperature.
2. Measured at the frequency at which the insertion loss is minimum.
3. All bandwidths are centered at F_C.
4. Decibel level is relative to the insertion loss.
5. Over bandwidth F_C +/- 1.2 MHz.
6. These parameters to be satisfied over the 3 dB bandwidth.

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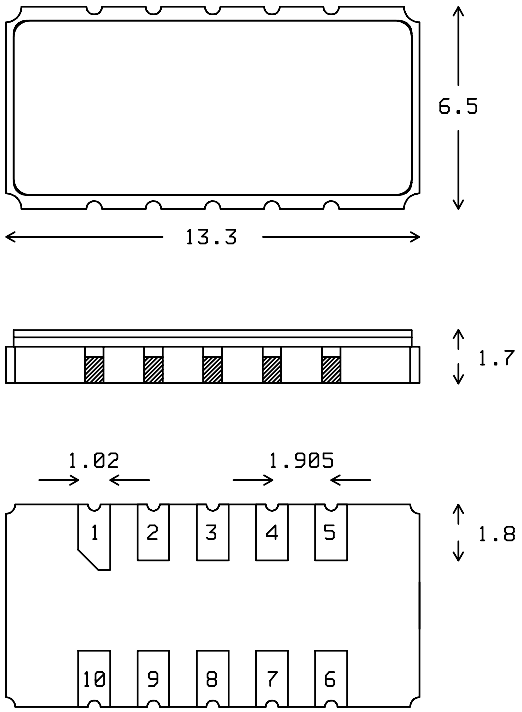
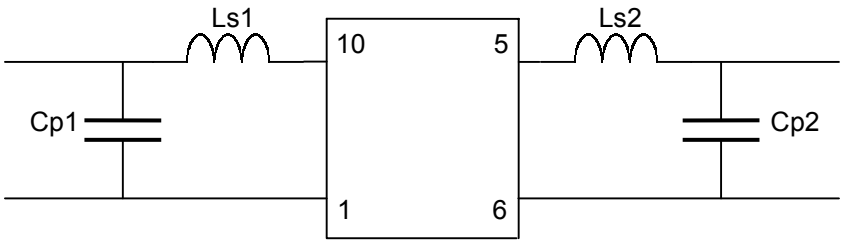
PACKAGE OUTLINE



Units: mm
Pin Configuration:

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

MATCHING CIRCUIT



Suggested component values in 50 Ω: Cp1 = 27 pF, Ls1 = 27 + 8.2 nH, Ls2 = 33 nH, Cp2 = 27 pF

Minimum Q of inductors: 45.

Notes - May require 2% matching components in order to meet return loss specification.
- Optimum component values can change depending on board layout.