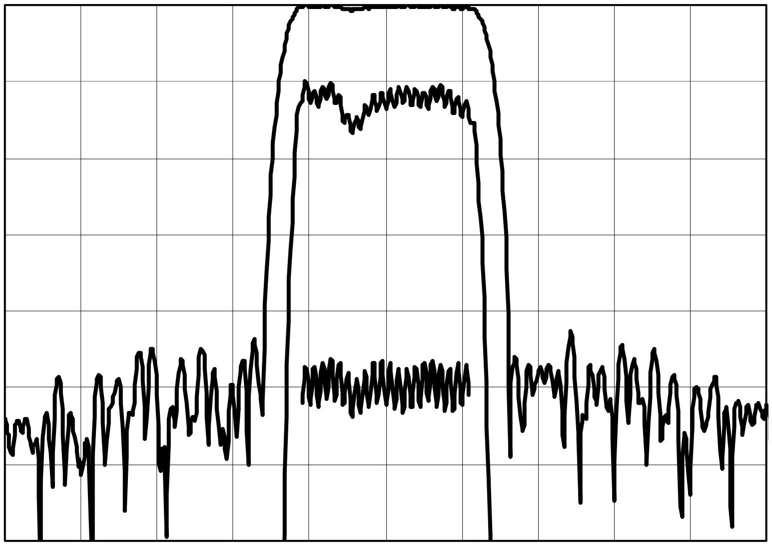
Integrated
Circuit
Systems, Inc.

150.025 MHz Filter
6.1 MHz Bandwidth
Part Number SF0150BA03095S

TYPICAL PERFORMANCE



Horizontal: 2.5 MHz/div	Vertical (from top):			
		Magnitude	10	dB/div
		Magnitude	1	dB/div
		Group Delay Deviation	150	ns/div

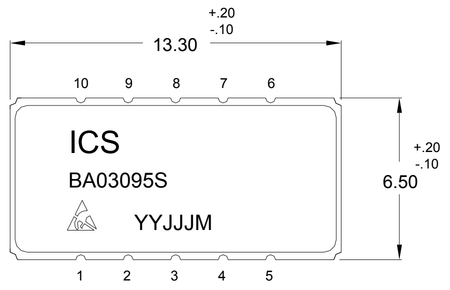
SPECIFICATION

Parameter	Min	Typ	Max	Units
All electrical specifications apply over the full -10ºC to +50ºC operating range and include allowance for all manufacturing tolerances				
Center Frequency F_C [1]	149.875	150.025	150.175	MHz
1 dB Bandwidth [2]	5.7	5.95		MHz
3 dB Bandwidth [2]	6.1	6.42		MHz
40 dB Bandwidth [2]		7.95	8.3	MHz
Stopband Rejection, 25 MHz to 135 MHz	45	54		dB
Stopband Rejection, 165 MHz to 2000 MHz	45	53		dB
Insertion Loss [3]		19.3	21	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 [4]		115	150	ns p-p
Absolute Delay		1.81	2.0	µs
Input VSWR, $F_C \pm 2.85$ MHz [4]		1.2	1.8	: 1
Output VSWR, $F_C \pm 2.85$ MHz [4]		1.3	1.8	: 1
Maximum Input Level	20			dBm
Source and Load Impedance		50		Ω
Operating Temperature Range	-10		+50	ºC
Storage Temperature Range	-45		+85	ºC

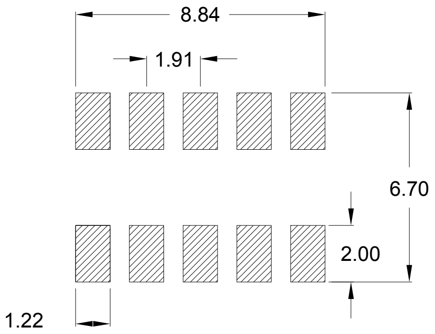
Notes:
1. Defined as the mean of the 10dB frequencies.
2. dB levels are taken to be relative to the insertion loss.
3. Measured at the maximum level (lowest insertion loss) of the response.
4. When matched as indicated on Page 3.

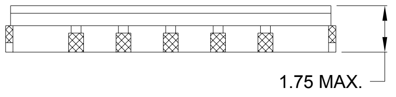
PACKAGE AND SUGGESTED PCB FOOTPRINT

PACKAGE INFORMATION

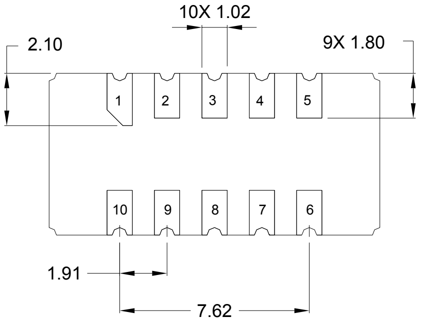


SUGGESTED PCB FOOTPRINT





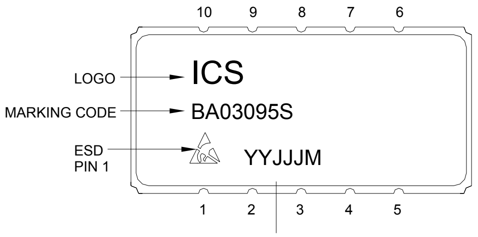
PIN NO.	DESCRIPTION
10	INPUT
5	OUTPUT
1,2,3,4,6,7,8,9	GROUND



NOTES:
DIMENSIONS SHOWN ARE NOMINAL IN MILLIMETERS. ALL TOLERANCES ARE ±0.15MM EXCEPT OVERALL LENGTH AND WIDTH

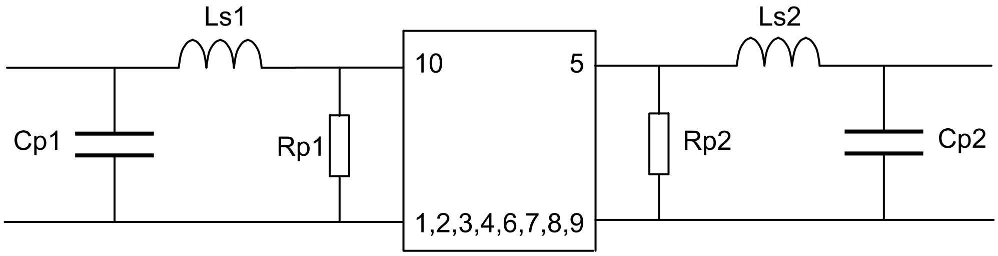
Package Material:
Body: Al_2O_3 ceramic
Lid: *Kovar, Ni* plated
Terminations: *Au* plating 0.5-1.0 um, over a 2-6 um *Ni* plating

MARKING



The date code consists of:
YY = last two digits of year; JJJ = Julian day;
M = manufacturing site code

MATCHING CIRCUIT



Component values in 50Ω:	Rp1 = 220 Ω	Ls1 = 39 nH	Cp1 = 47 pF
(Minimum inductor Q = 45)	Rp2 = 130 Ω	Ls2 = 33 nH	Cp2 = 50 pF

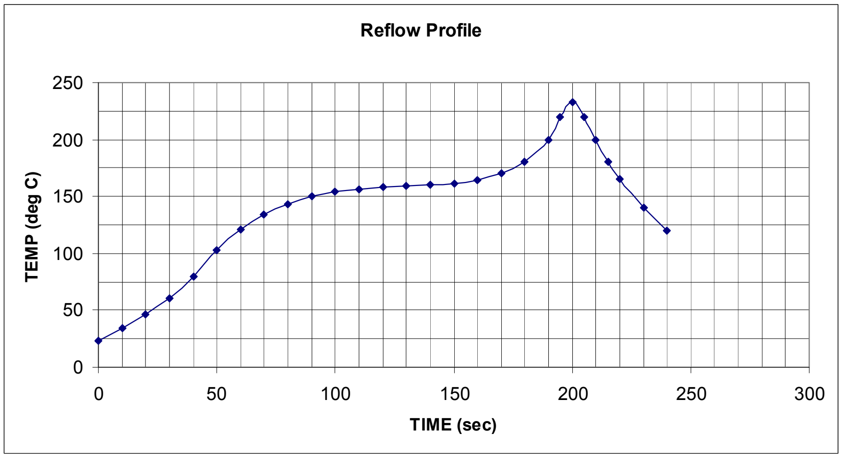
Notes:
1. Optimum values may differ from these when using a different fixture or board layout. The values shown here are intended as a guide only.
2. Required component tolerances – resistors ±5%, inductors ±2%, capacitors ±5%.

MAXIMUM RATINGS

Parameter	Min	Max	Units
Operating Temperature Range	-10	+50	ºC
Storage Temperature Range	-45	+85	ºC
Maximum Input Power Level		20	dBm
D. C. Voltage between Each Terminal		15	V

PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS

Parameter	Qualification Conditions
Life Testing	High temperature bake at +85 ºC for 168 hours.
Temperature Cycling	MIL-STD 883, Method 1010: -40 ºC to +85 ºC, 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 ºC for 10 seconds. Pre-heat: 150-170 ºC for 60 to 90 seconds. Peak dwell: over 200 ºC 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 ºC +/-5 ºC; 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
Precautions	Do not subject devices to ultrasonic cleaning, which may cause deterioration and destruction of the device.



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