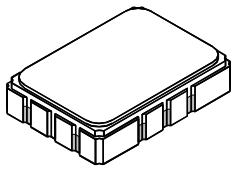
muRata
INNOVATOR IN ELECTRONICS

SF2073B

456.00 MHz SAW Filter

- ***Designed for 802.16 and WIMAX Receiver IF Application***
- ***Low Insertion Loss***
- ***5.0 X 7.0 mm Surface-Mount Case***
- ***Differential or Single Ended Input and Output***
- ***Complies with Directive 2002/95/EC (RoHS)***



SMP-03

Absolute Maximum Ratings

Rating	Value	Units
Maximum Incident Power in Passband	+13	dBm
Max. DC voltage between any 2 terminals	30	VDC
Storage Temperature Range	-40 to +85	°C
Suitable for lead-free soldering - Max Soldering Temperature	260°C for 30 s	

Electrical Characteristics

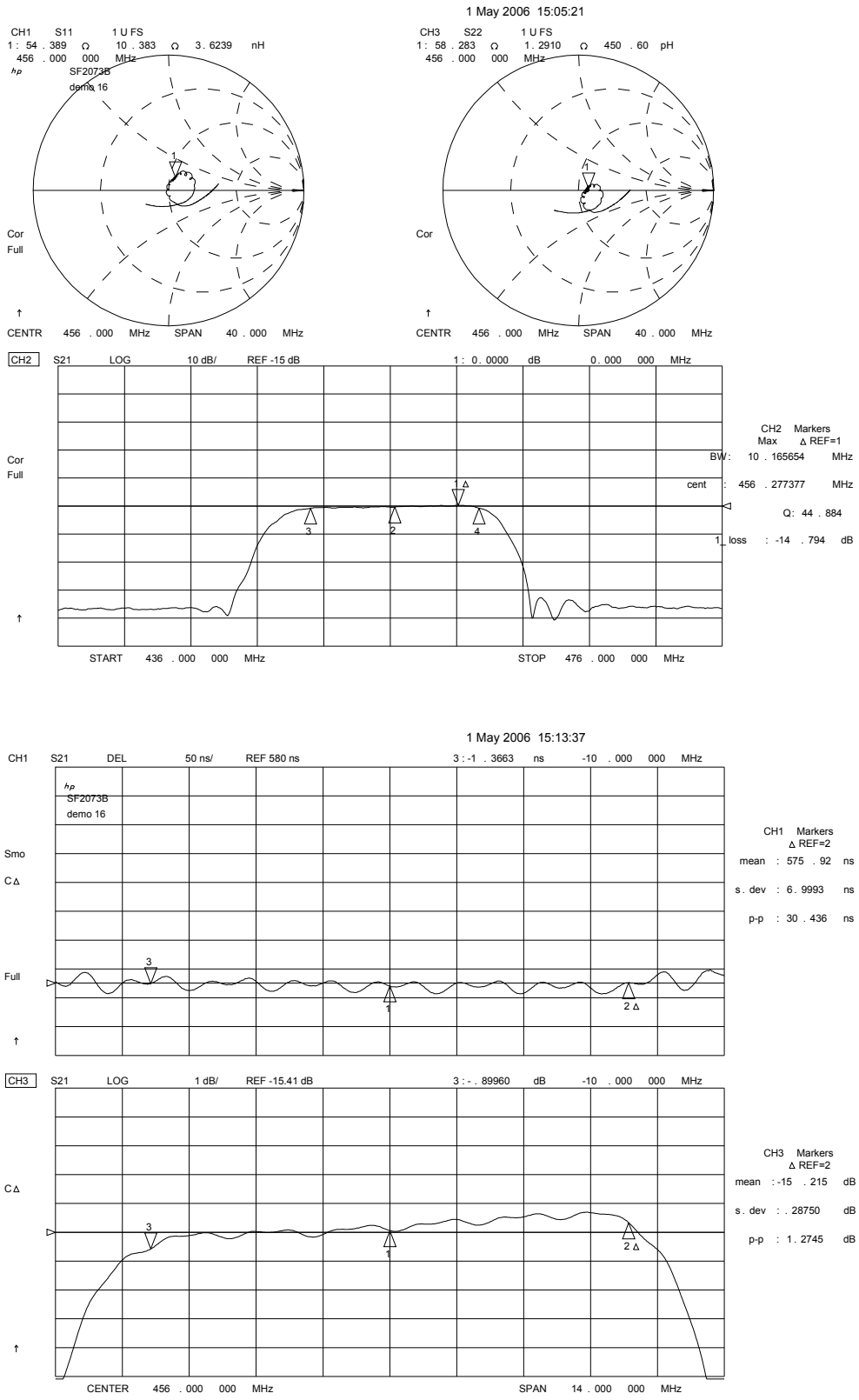
Characteristic		Sym	Notes	Min	Typ	Max	Units
Nominal Frequency		f_N	1		456.000		MHz
Minimum Insertion Attenuation		α_{min}	1		12.5	14.5	dB
Amplitude Variation	f_N ±5.0 MHz	$\Delta\alpha$	1		0.6	1.5	dB p-p
	f_N ±5.2 MHz		1		0.8	2.5	
Absolute Group Delay (at f_N)			1		0.5	0.7	µs
Group Delay Variation (p-p)	f_N ±5.0 MHz		1		35	100	ns
Relative Attenuation	256 to 360 MHz		1, 2	35	50		dB
	360 to 416.0 MHz		1, 2	38	64		
	416 to 443 MHz		1, 2	35	40		
	468 to 656 MHz		1, 2	35	40		
	656 to 946 MHz		1, 2	50	60		
Temperature Range	Operating			-40		85	°C
	Storage			-40		85	
Case Style			SMP-03 7 x 5 mm Nominal Footprint				
Lid Symbolization (YY=year, WW=week, S=shift)			RFM SF2073B YYWWS				

CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

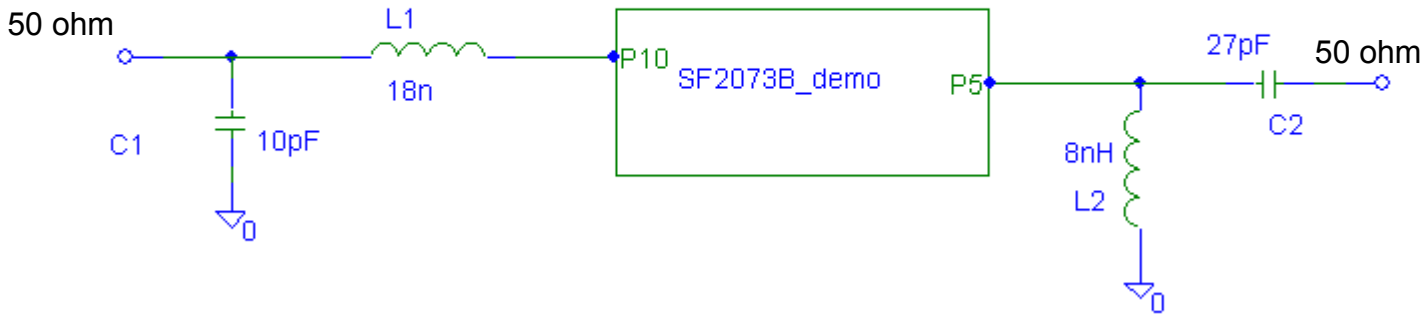
NOTES:

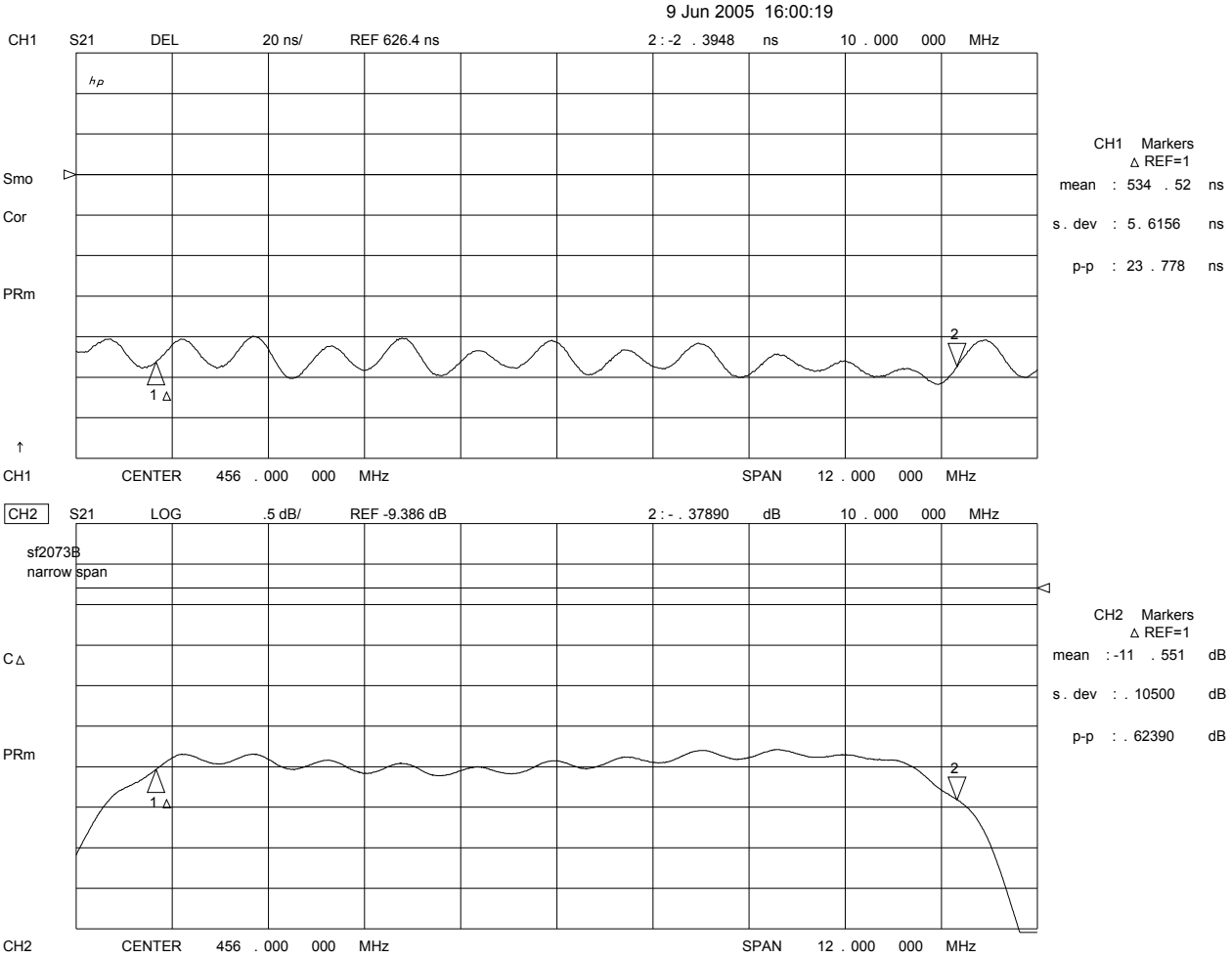
1. Unless noted otherwise, all specifications apply over the operating temperature range.
2. Rejection is measured as attenuation below the minimum IL point in the passband. Rejection in final user application is dependent on PCB layout and external impedance matching design. See Application Note No. 42 for details.
3. The design, manufacturing process, and specifications of this filter are subject to change.
4. Tape and Reel Standard ANSI / EIA 481.
5. Either Port 1 or Port 2 may be used for either input or output in the design. However, impedances and impedance matching may vary between Port 1 and Port 2, so that the filter must always be installed in one direction per the circuit design.
6. US and international patents may apply.
7. Murata, stylized Murata logo, and Murata N.A., Inc. are registered trademarks of Murata Manufacturing Co., Ltd.

I. Impedance Matching for Differential 200 Ohm Load: Coilcraft Inductors
(SAW Matched to 200 Ohms Balanced, 4:1 Transformers Account for 2dB of Loss)

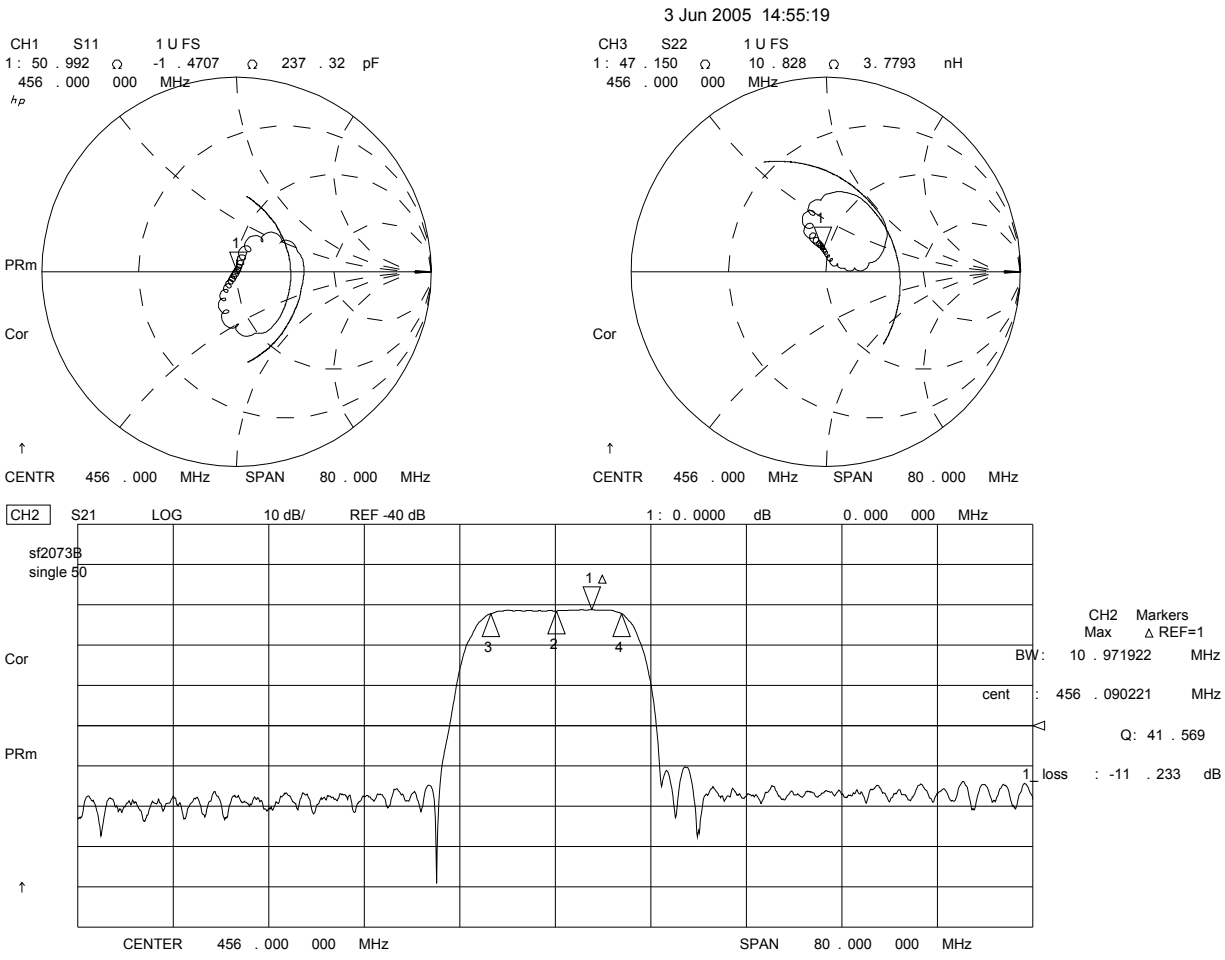


II. Impedance Matching for Single Ended 50 Ohm load

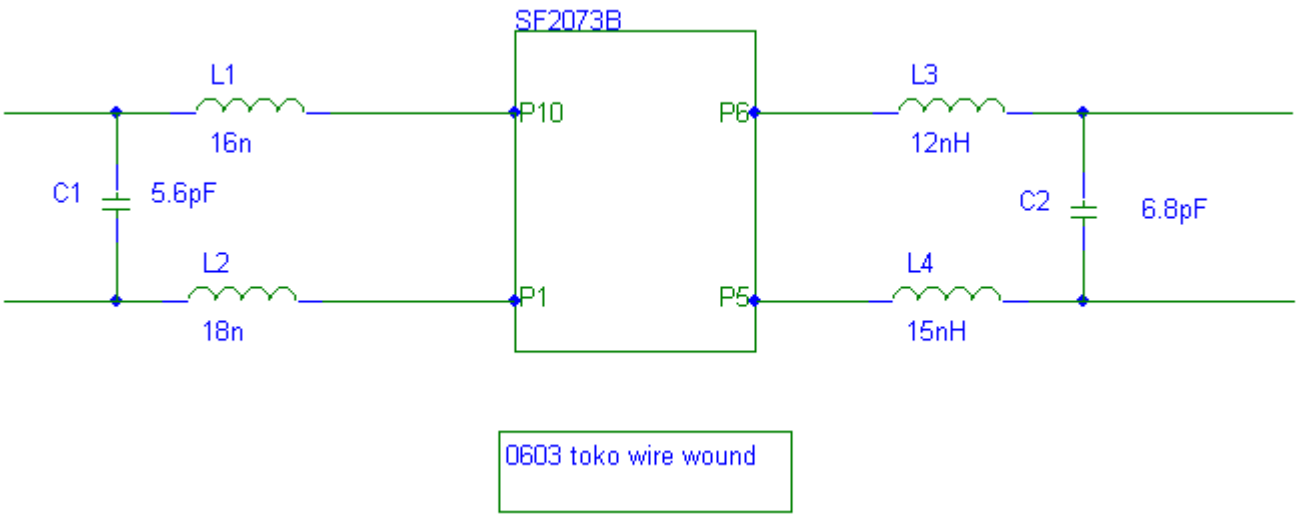


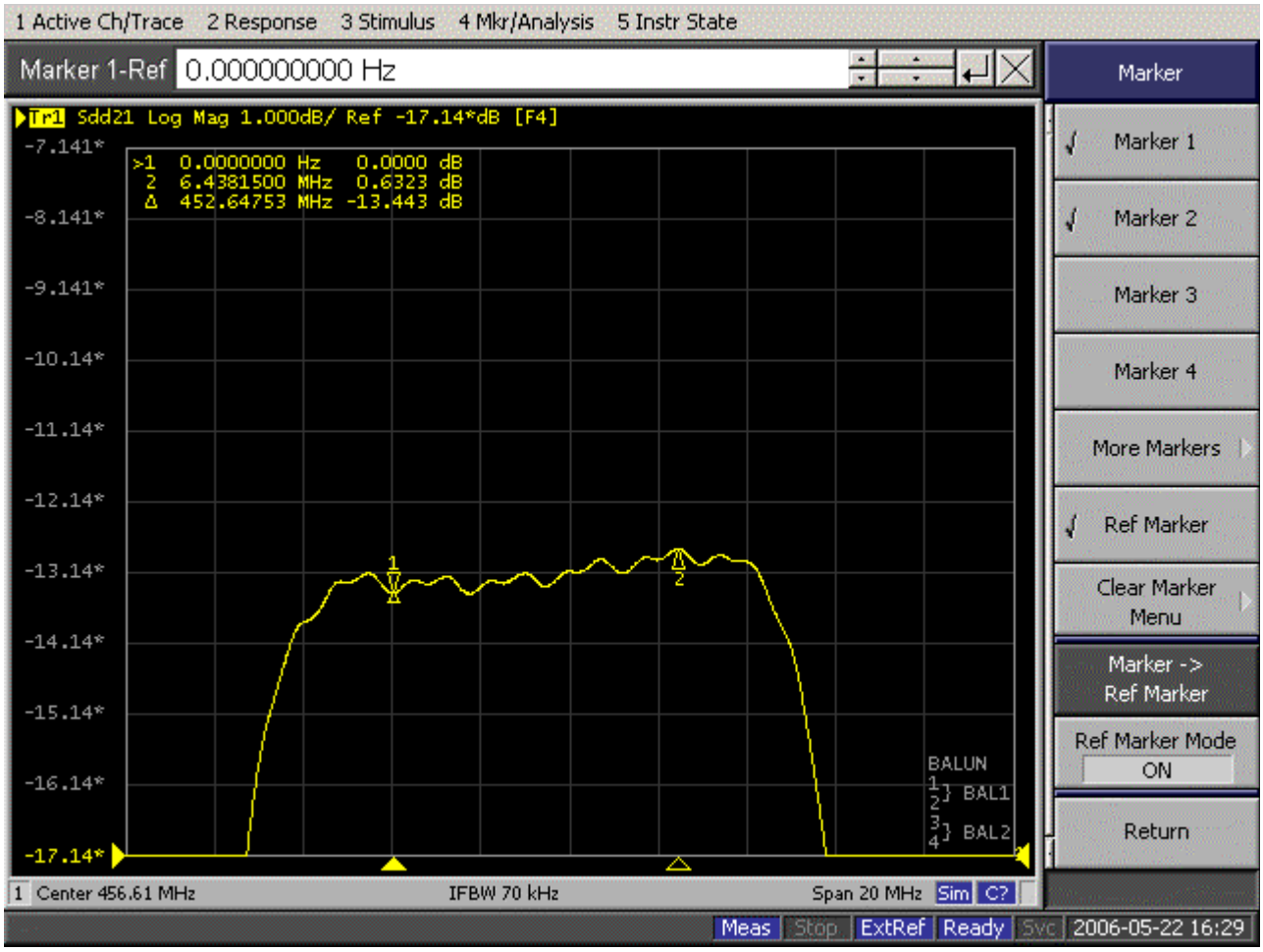


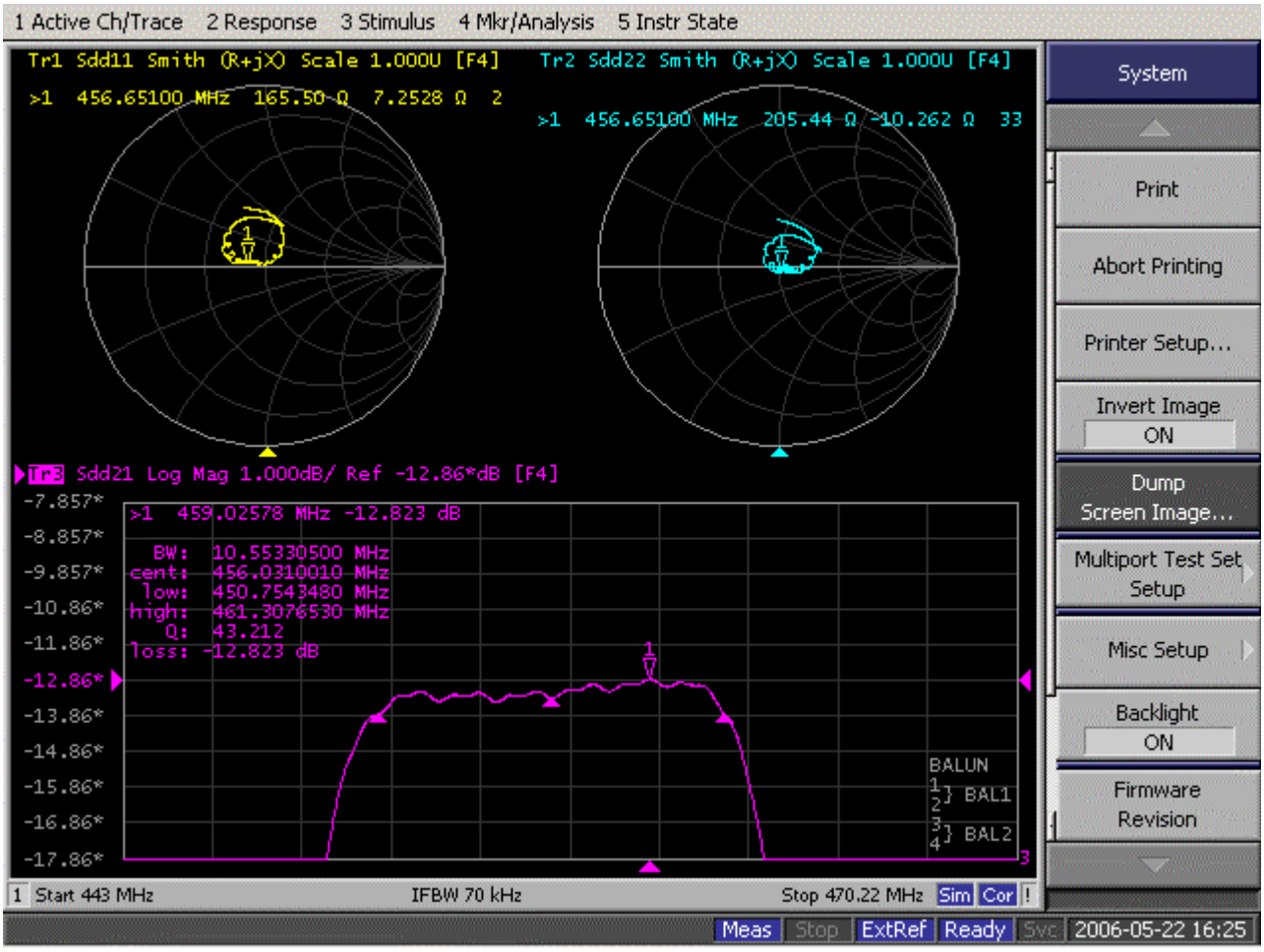
II. Impedance Matching for Single Ended 50 Ohm load (continued)



III. Impedance Matching on SMI Radio Board: SMI 7035



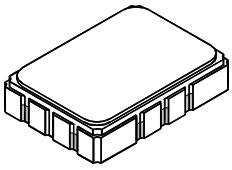




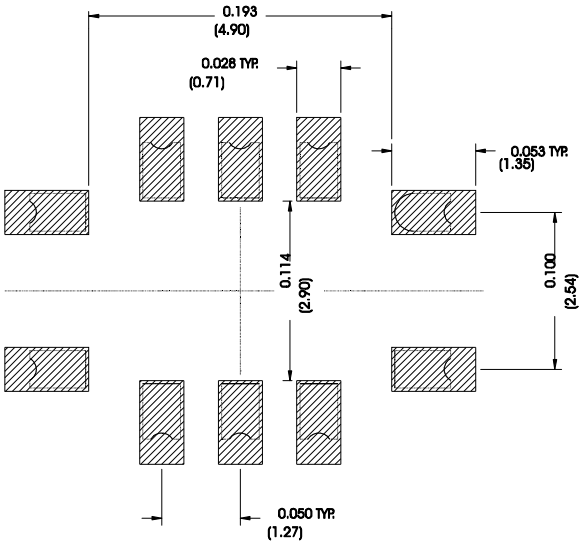
SMP-03 Case

10-Terminal Ceramic Surface-Mount Case

7 x 5 mm Nominal Footprint



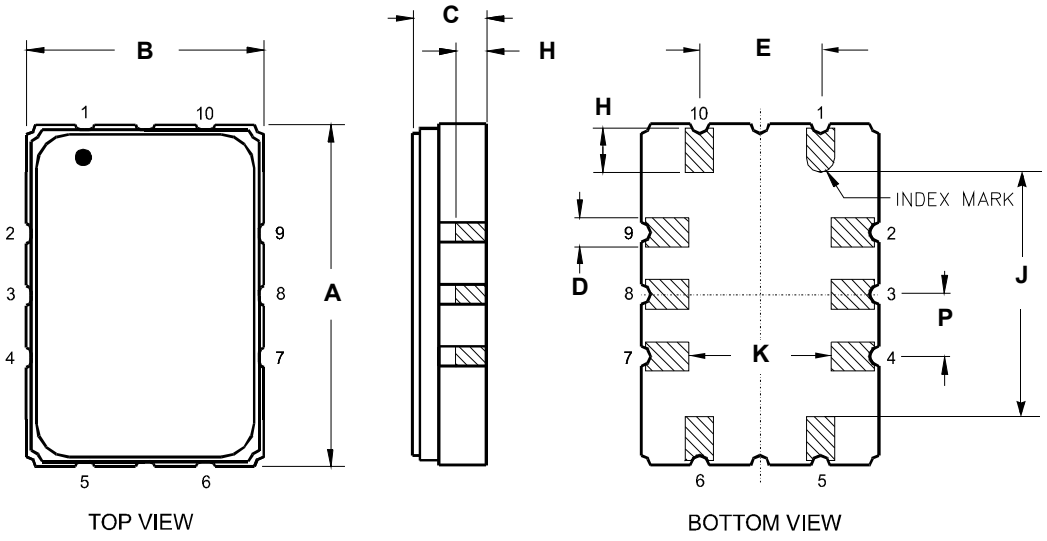
Recommended PCB Footprint



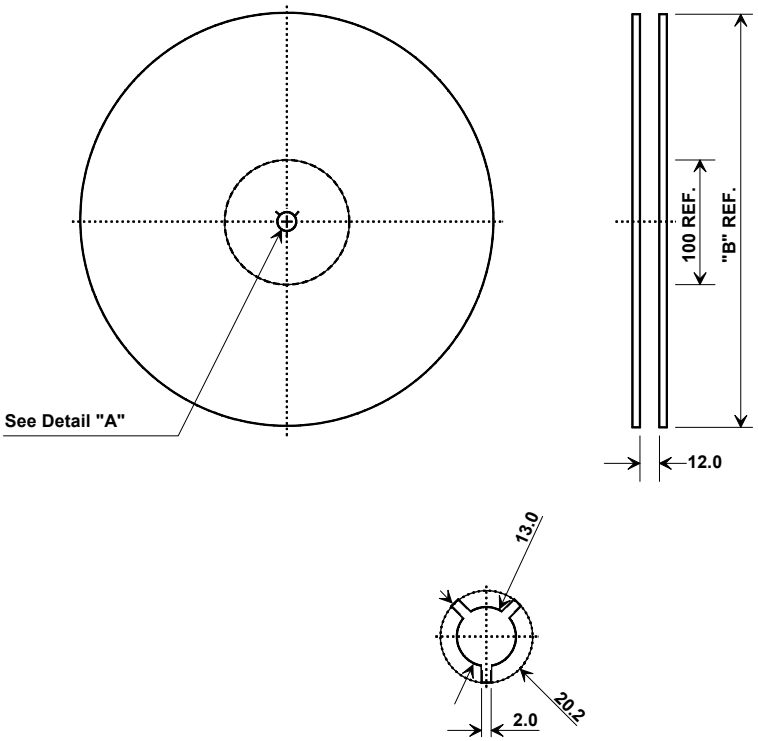
Case Dimensions						
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	6.80	7.00	7.20	0.268	0.276	0.283
B	4.80	5.00	5.20	0.189	0.197	0.205
C	1.50	1.65	2.00	0.059	0.065	0.079
D	.47	0.60	.73	0.019	0.024	0.029
E	2.41	2.54	2.67	0.095	0.100	0.105
H	0.87	1.0	1.13	0.034	0.039	0.044
J	4.87	5.00	5.13	0.192	0.197	0.202
K	2.87	3.00	3.13	0.113	0.118	0.123
P	1.14	1.27	1.40	0.045	0.050	0.055

Materials	
Solder Pad Termination	Au plating 30 - 60 µinches (76.2-152 µm) over 80-200 µinches (203-508 µm) Ni.
Lid	Fe-Ni-Co Alloy Electroless Nickel Plate (8-11% Phosphorus) 100-200 µinches Thick
Body	Al_2O_3 Ceramic
Pb Free	

Electrical Connections		
Connection		Terminals
Port 1	Input or Return	10
	Return or Input	1
Port 2	Output or Return	5
	Return or Output	6
Ground		All others
Single Ended Operation		**Return is ground**
Differential Operation		**Return is hot**



Tape and Reel Specifications



"B "		Quantity Per Reel
Inches	millimeters	
7	178	500
13	330	2000

COMPONENT ORIENTATION and DIMENSIONS

Carrier Tape Dimensions		Tolerance
Ao	5.5 mm	± 0.1mm
Bo	7.5 mm	± 0.1mm
Ko	2.0 mm	± 0.1mm
Pitch	8.0 mm	± 0.1mm
W	16.0 mm	± 0.2mm