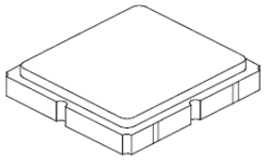
RFMi
A BRAND OF AKOUSTIS

RoHS compliant

SF2147D

157.0 MHz SAW Filter

- ***CDMA Base Station SAW Filter***
- ***3.8 x 3.8 x 1.4 mm Surface-mount Package***
- ***Complies with Directive 2002/95/EC (RoHS)***
- ***Moisture Sensitivity Level: 1***



SM3838-6

Absolute Maximum Ratings

Rating	Value	Units
Maximum Incident Power in Passband	+10	dBm
Maximum DC Voltage on any Non-ground Terminals	3	VDC
Operating Temperature Range	-40 to +85	°C
Storage Temperature Range in Tape and Reel	-40 to +85	°C
Suitable for Lead-free Soldering - Maximum Soldering Profile	260°C for 30 s	

Electrical Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	f_C			157		MHz
Passband Width	BW		20			
Matched Insertion Loss, 147 to 167 MHz	IL			7.8	8.5	dB
Passband Amplitude Ripple, 147 to 167 MHz				1.2	1.8	dB_{P-P}
Passband Group Delay, 147 to 167 MHz					0.2	µs
Passband Group Delay Ripple, 147 to 167 MHz				15	50	ns_{P-P}
Rejection:						dB
f_C ± (16 to 20 MHz)			8	11		
f_C ± (20 to 100 MHz)			15	29		
DC to 57 MHz			35	45		
257 to 1000 MHz						
Single-ended Source Impedance	50 ohm					
Single-ended Load Impedance	50 ohm					

Case Style	SM3838-6 3.8 x 3.8 mm Nominal Footprint
Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator	796, YWWS

Electrical Connections

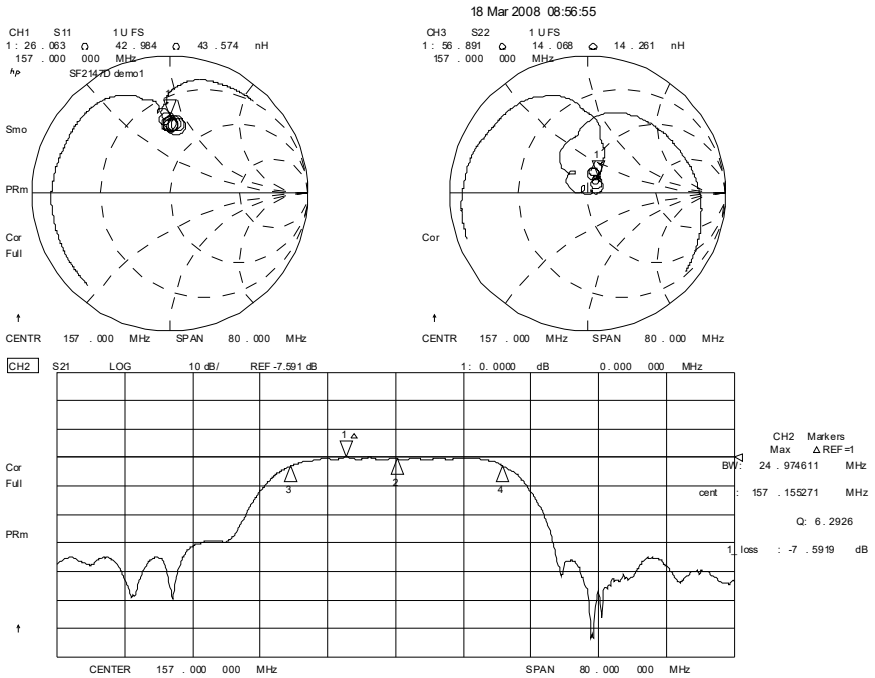
Connection	Terminals
Port 1	2
Port 2	5
Case Ground	All others

CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

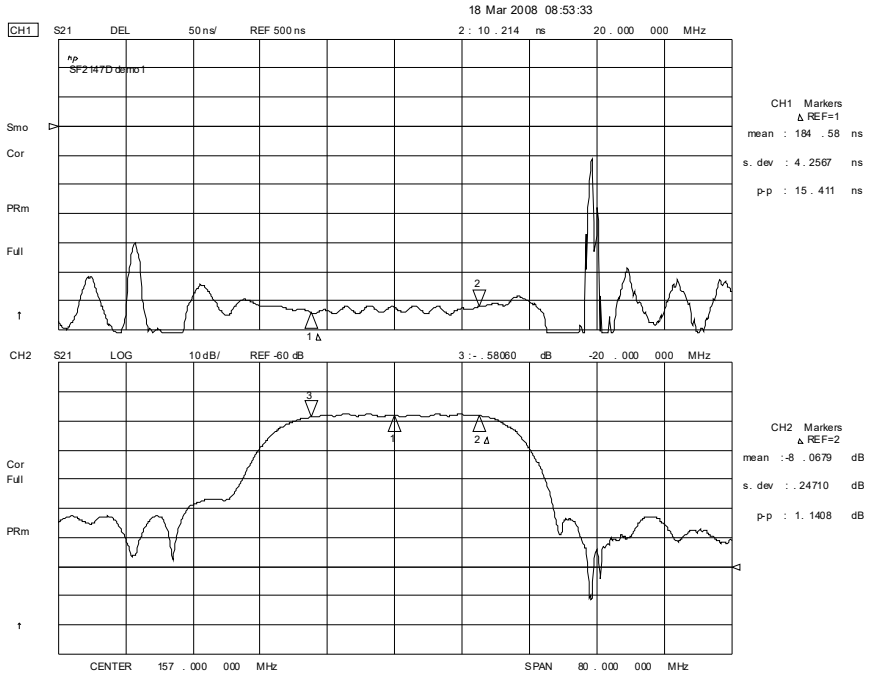
NOTES:

1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

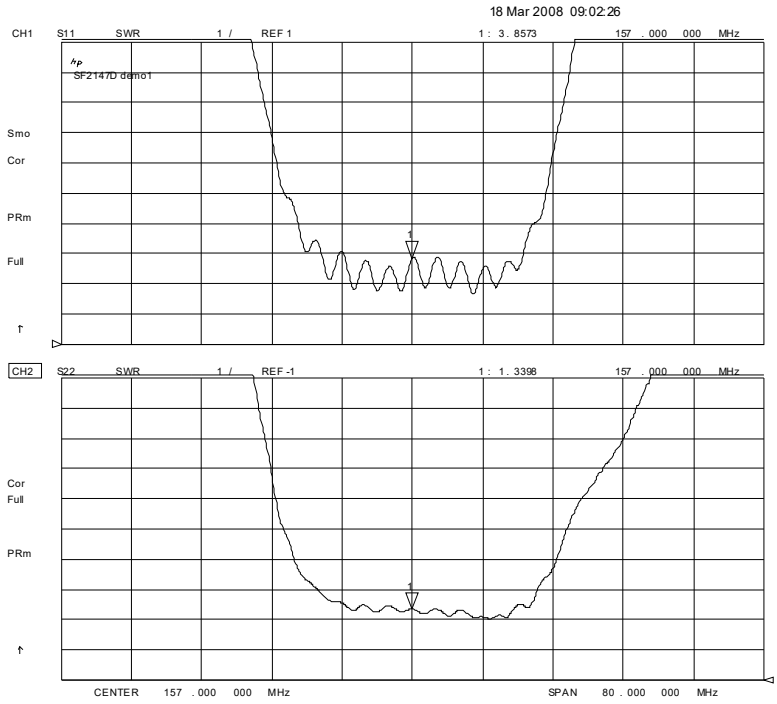
Filter S11, S22 and S21 Plots



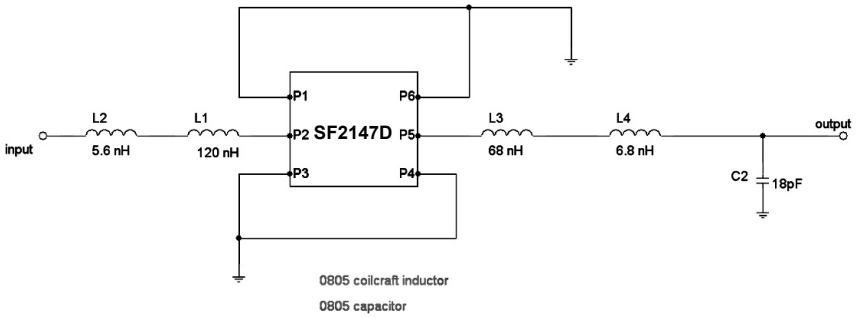
Filter Passband Group Delay and Amplitude Plots



Filter Input and Output VSWR Plots



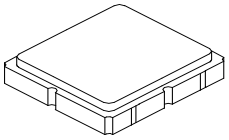
Typical Tuning Network

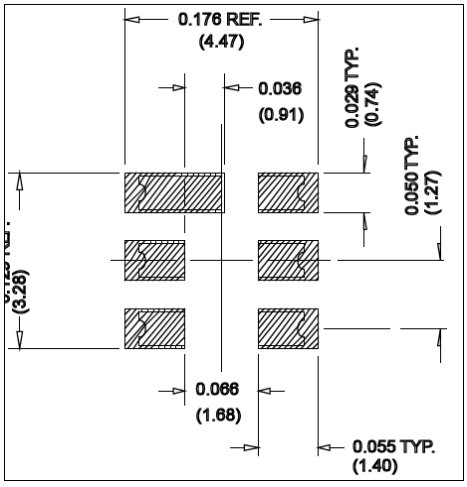


SM3838-6 Case

6-Terminal Ceramic Surface-Mount Case

3.8 X 3.8 mm Nominal Footprint





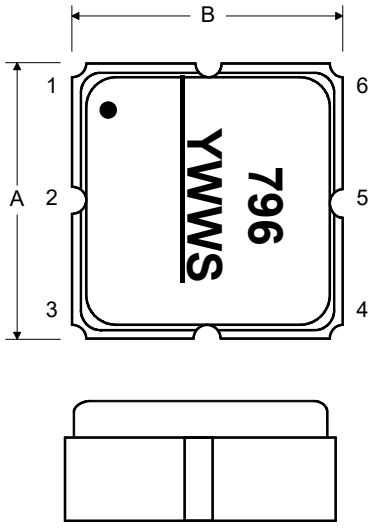
PCB Footprint

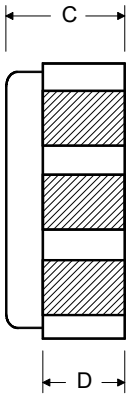
Case Dimensions						
Dimension	**mm**			**Inches**		
	Min	**Nom**	**Max**	**Min**	**Nom**	**Max**
A	3.60	3.80	4.0	0.14	0.15	0.16
B	3.60	3.80	4.0	0.14	0.15	0.16
C	1.30	1.50	1.70	0.05	0.06	0.067
D	0.95	1.10	1.25	0.037	0.043	0.05
E	2.39	2.54	2.69	0.090	0.10	0.110
G	0.90	1.0	1.10	0.035	0.04	0.043
H	1.90	2.0	2.10	0.75	0.08	0.83
I	0.50	0.6	0.70	0.020	0.024	0.028
J	1.70	1.8	1.90	0.067	0.07	0.075

Electrical Connections		
Connection		**Terminals**
Port 1	Single-ended Input	2
Port 2	Single-ended Output	5
	Ground	All others
Single-ended Operation Only		
Dot indicates Pin 1		

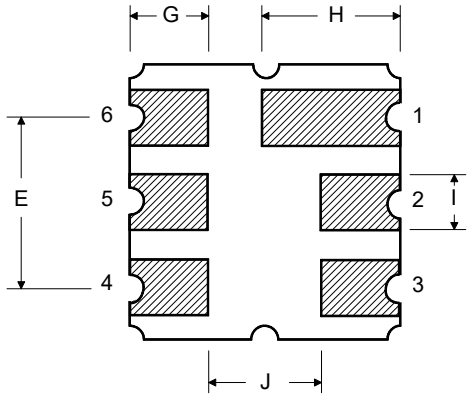
Materials	
Solder Pad Plating	0.3 to 1.0 µm Gold over 1.27 to 8.89 µm Nickel
Lid Plating	2.0 to 3.0 µm Nickel
Body	Al_2O_3 Ceramic

TOP VIEW



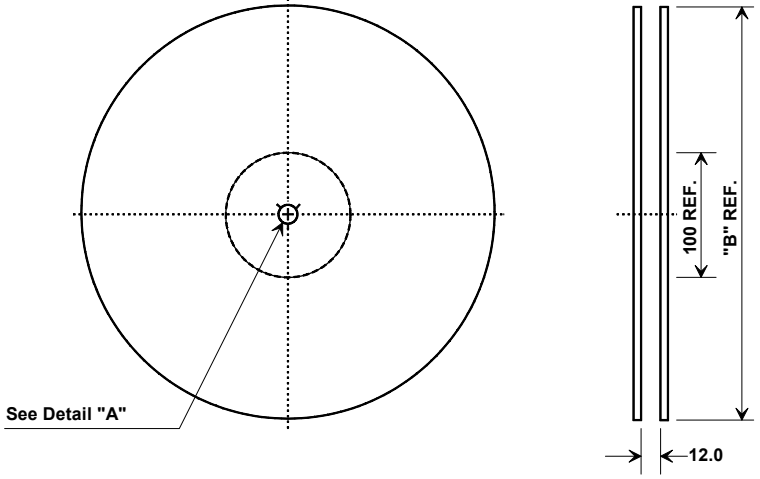


BOTTOM VIEW

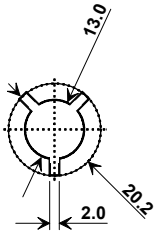


Tape and Reel Specifications

Tape and Reel Standard per ANSI/EIA-481

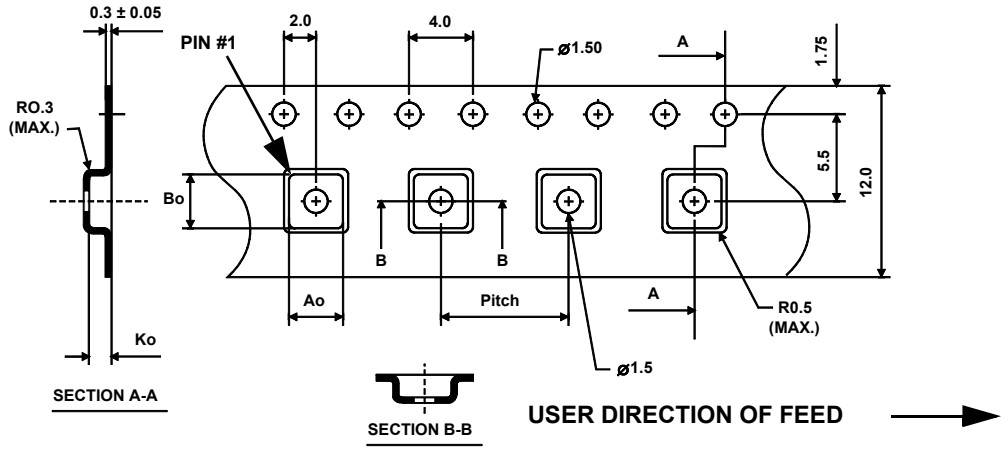


"B " Nominal Size		Quantity Per Reel
Inches	millimeters	
7	178	500
13	330	3000



COMPONENT ORIENTATION and DIMENSIONS

Carrier Tape Dimensions	
Ao	4.25 mm
Bo	4.25 mm
Ko	1.30 mm
Pitch	8.0 mm
W	12.0 mm



Recommended Reflow Profile

1. Preheating shall be fixed at 150~180ºC for 60~90 seconds.
2. Ascending time to preheating temperature 150ºC shall be 30 seconds min.
3. Heating shall be fixed at 220ºC for 50~80 seconds and at 260ºC +0/-5ºC peak (10 seconds).
4. Time: 5 times maximum.