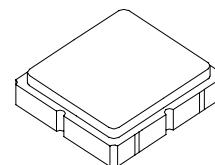


- **CDMA 450 F-Band RF SAW Filter**
- **3.8 x 3.8 x 1.4 mm Surface-mount Package**
- **Complies with Directive 2002/95/EC (RoHS)**



### Absolute Maximum Ratings

Rating	Value	Units
Maximum Incident Power in Passband	+28	dBm
Maximum DC Voltage between any Two Terminals	30	VDC
Storage Temperature Range	-40 to +85	°C
Suitable for Lead-free Soldering - Maximum Soldering Profile	260°C for 30 s	

**SF1212D**
**452.5 MHz  
SAW Filter**

**SM3838-6**

### Electrical Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units
Nominal 1 dB Center Frequency	$f_c$			452.5		MHz
Passband Insertion Loss	IL	1		1.8	2.8	dB
VSWR	450.0 to 454.8 MHz			1.4:1	2:1	
Rejection	0.3 to 440.0 MHz		25	28		
	460.0 to 465.0 MHz	1, 2, 3	30	49		
	465.0 to 1700 MHz		25	28		
	1700 - 2000 MHz		20	30		
Operating Temperature Range	$T_A$	1	-30		+85	°C
Impedance at $f_c$	Source, single ended			50 ohm		
	Load, single ended			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				641, YWWS		
Standard Reel Quantity	Reel Size 7 Inch			1000 Pieces/Reel		
	Reel Size 13 Inch			3000 Pieces/Reel		

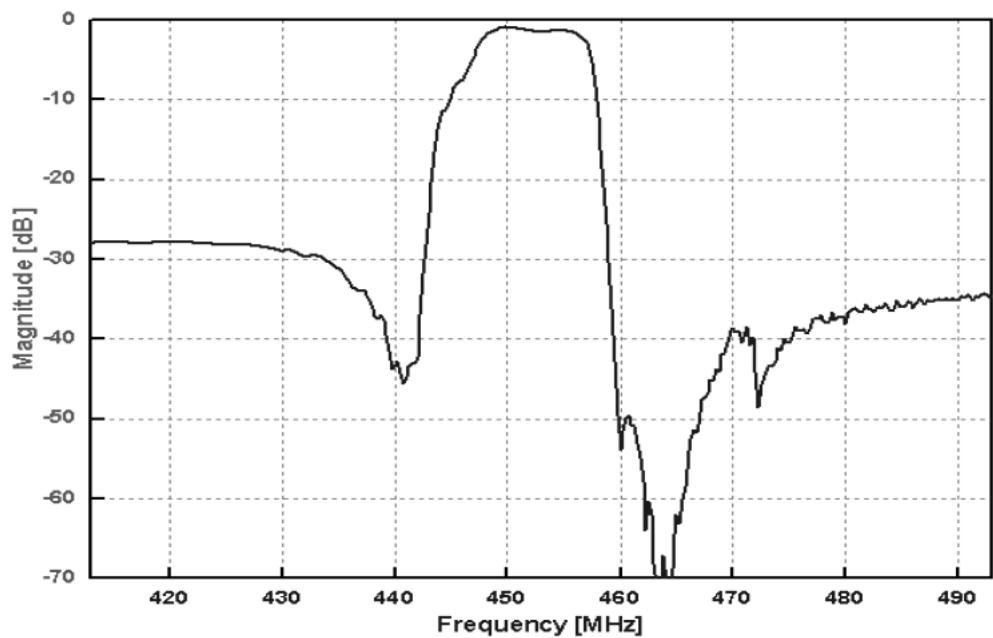
### Electrical Connections

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

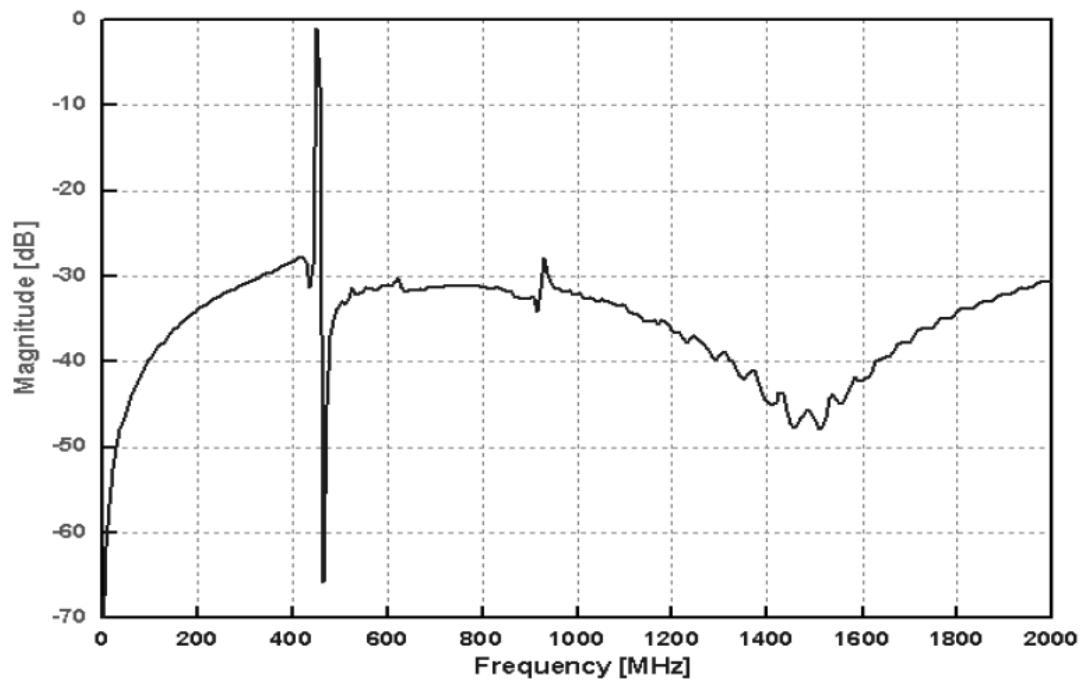

**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**
**NOTES:**

1. Unless noted otherwise, all specifications apply over the operating temperature range with filter soldered to the specified demonstration board with impedance matching to 50 Ω and measured with 50 Ω network analyzer.
2. Unless noted otherwise, all frequency specifications are referenced to the nominal center frequency,  $f_c$ .
3. 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.
4. "LRIP" or "L" after the part number indicates "low rate initial production"
5. and "ENG" or "E" indicates "engineering prototypes."
6. The design, manufacturing process, and specifications of this filter are subject to change.
7. 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.
8. US and international patents may apply.

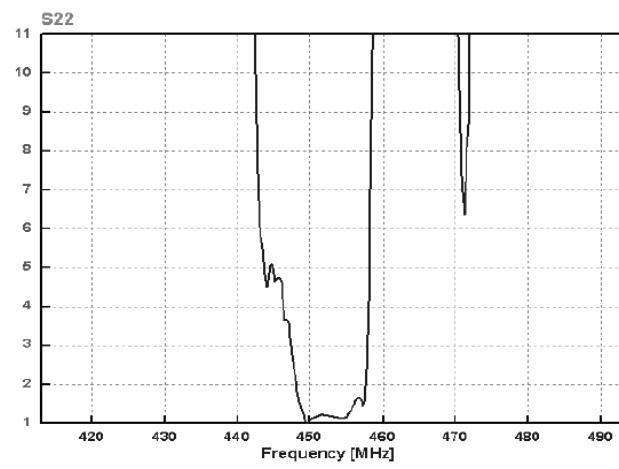
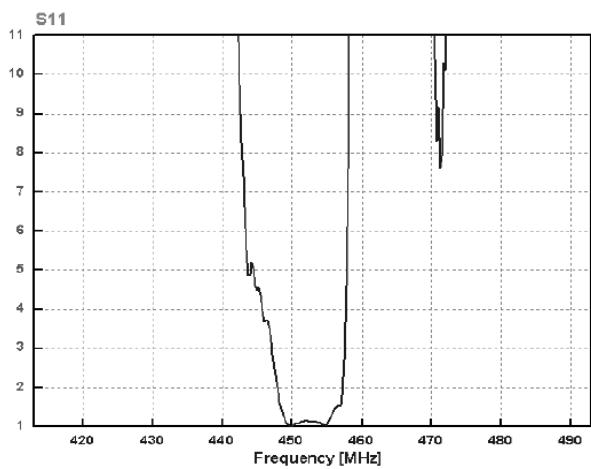
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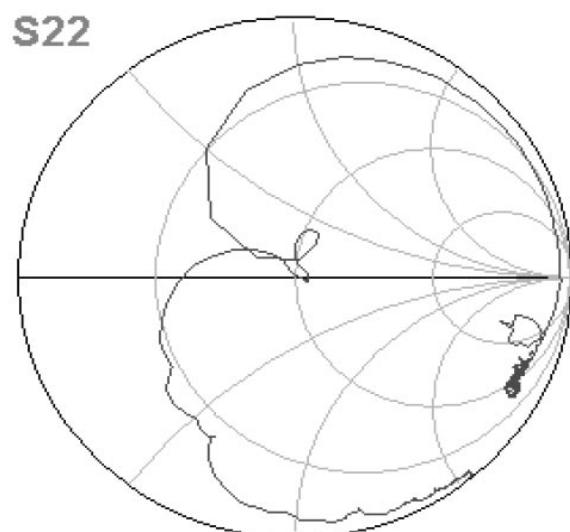
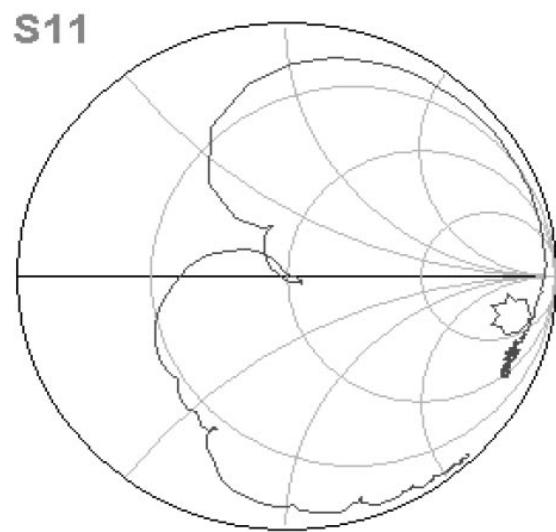
**Passband Plot**



**Wideband Plot**

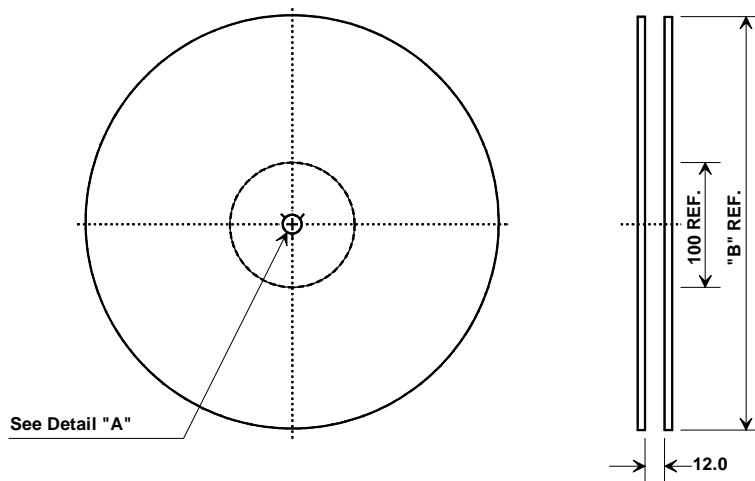


**VSWR**

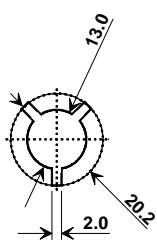


**S11 and S22 Plots**

## Tape and Reel Specifications

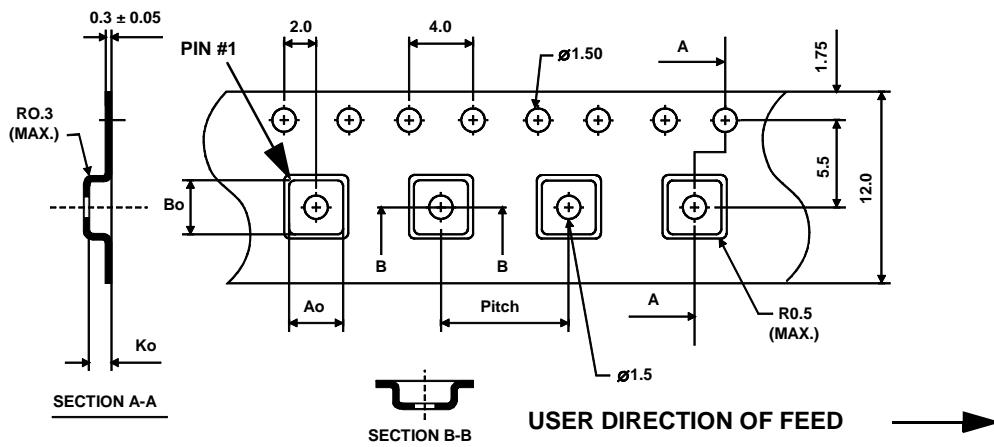


"B" Nominal Size		Quantity Per Reel
Inches	millimeters	
7	178	1000
13	330	3000



### COMPONENT ORIENTATION and DIMENSIONS

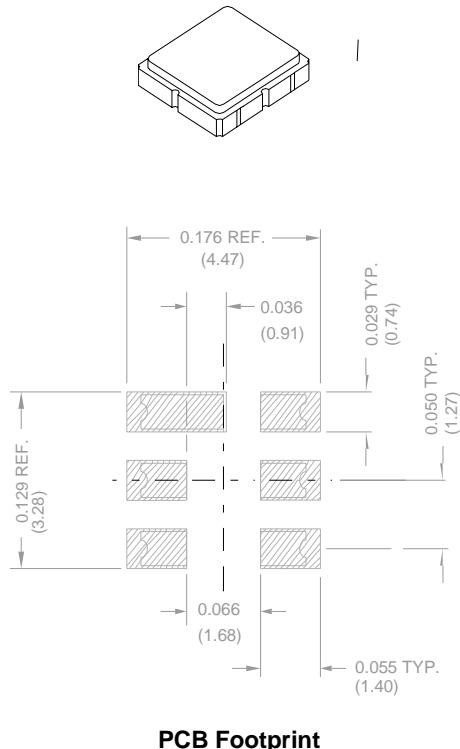
Carrier Tape Dimensions	
Ao	4.25 mm
Bo	4.25 mm
Ko	1.30 mm
Pitch	8.0 mm
W	12.0 mm



# SM3838-6 Case

## 6-Terminal Ceramic Surface-Mount Case

3.8 X 3.8 mm Nominal Footprint



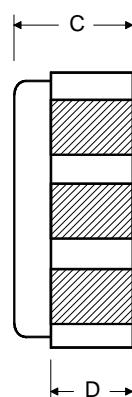
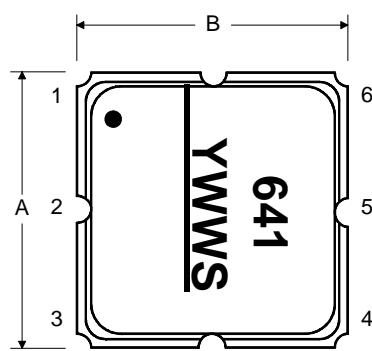
PCB Footprint

Dimension	Case Dimensions			Inches		
	mm		Min	Nom	Max	
	Min	Nom				
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

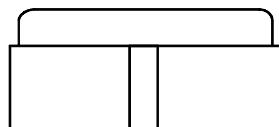
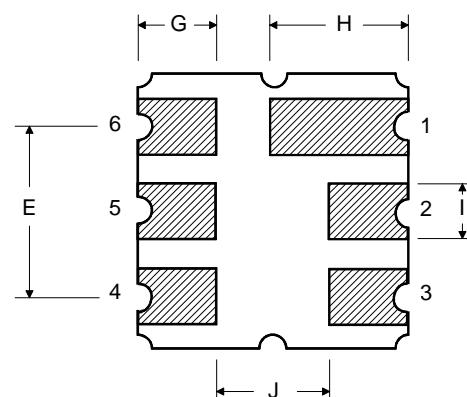
Electrical Connections		
Connection	Terminals	
Port 1	Single Ended Input	2
Port 2	Single Ended Output	5
	Ground	All others
<b>Single Ended Operation Only</b>		
Dot indicates Pin 1		

Materials	
Solder Pad Termination	Au plating 30 - 60 micrometers (76.2-152 $\mu$ m) over 80-200 micrometers (203-508 $\mu$ m) Ni.
Lid	Fe-Ni-Co Alloy Electroless Nickel Plate (8-11% Phosphorus) 100-200 micrometers Thick
Body	$\text{Al}_2\text{O}_3$ Ceramic
Pb Free	

TOP VIEW



BOTTOM VIEW



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