

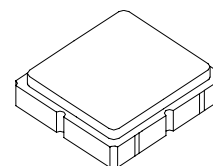


- CDMA 450 F-Band RF SAW Filter
- 3.8 x 3.8 x 1.4 mm Surface-mount Package
- Complies with Directive 2002/95/EC (RoHS)



SF1213D

462.5 MHz SAW Filter



SM3838-6

Absolute Maximum Ratings

Rating	Value	Units
Maximum Incident Power in Passband	+27	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	

Electrical Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units
Nominal 1 dB Center Frequency	f_c	1		462.5		MHz
Passband Insertion Loss	IL			2.8	3.5	dB
VSWR				1.9:1	2.4:1	
Rejection		1, 2, 3				dB
0.3 to 450.0 MHz			40	45		
450.0 to 455.0 MHz			35	46		
485.0 to 505.0 MHz			40	50		
505.0 to 1200 MHz			30	41		
1200 to 2000 MHz			20	32		
Operating Temperature Range	T_A	1	-30		+80	°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	642, YWWS
Standard Reel Quantity Reel Size 7 Inch	1000 Pieces/Reel
Reel Size 13 Inch	3000 Pieces/Reel

Electrical Connections

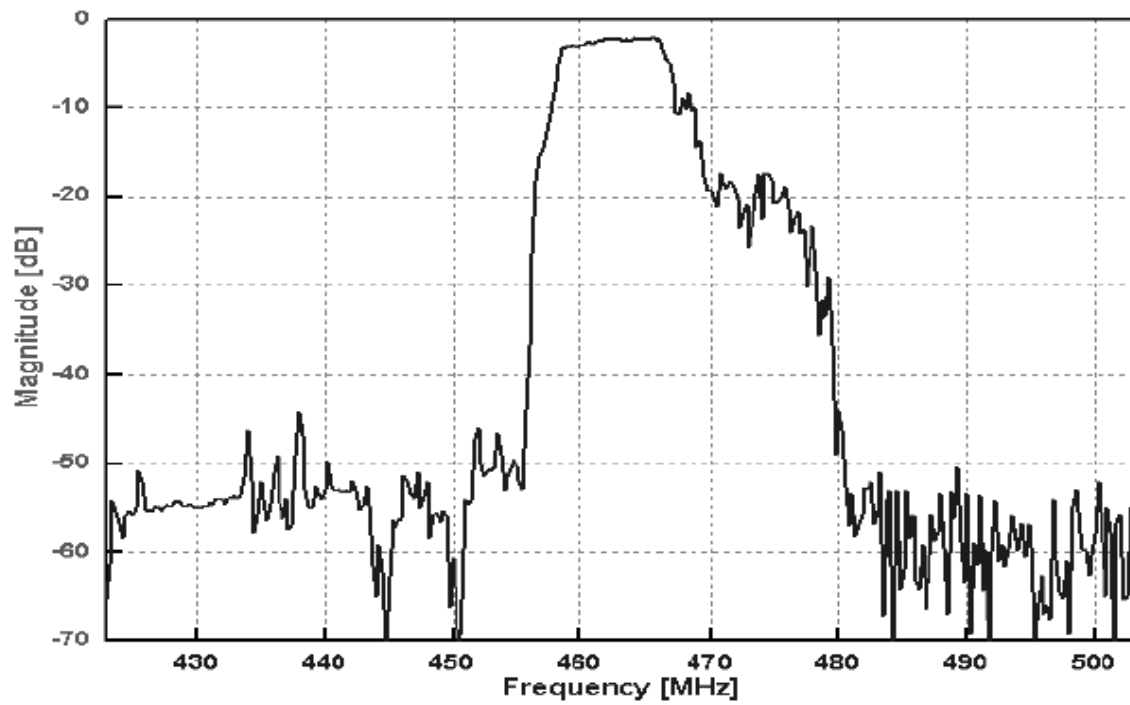
Connection	Terminals
Port 1	2
Port 2	5
Case Ground	All others



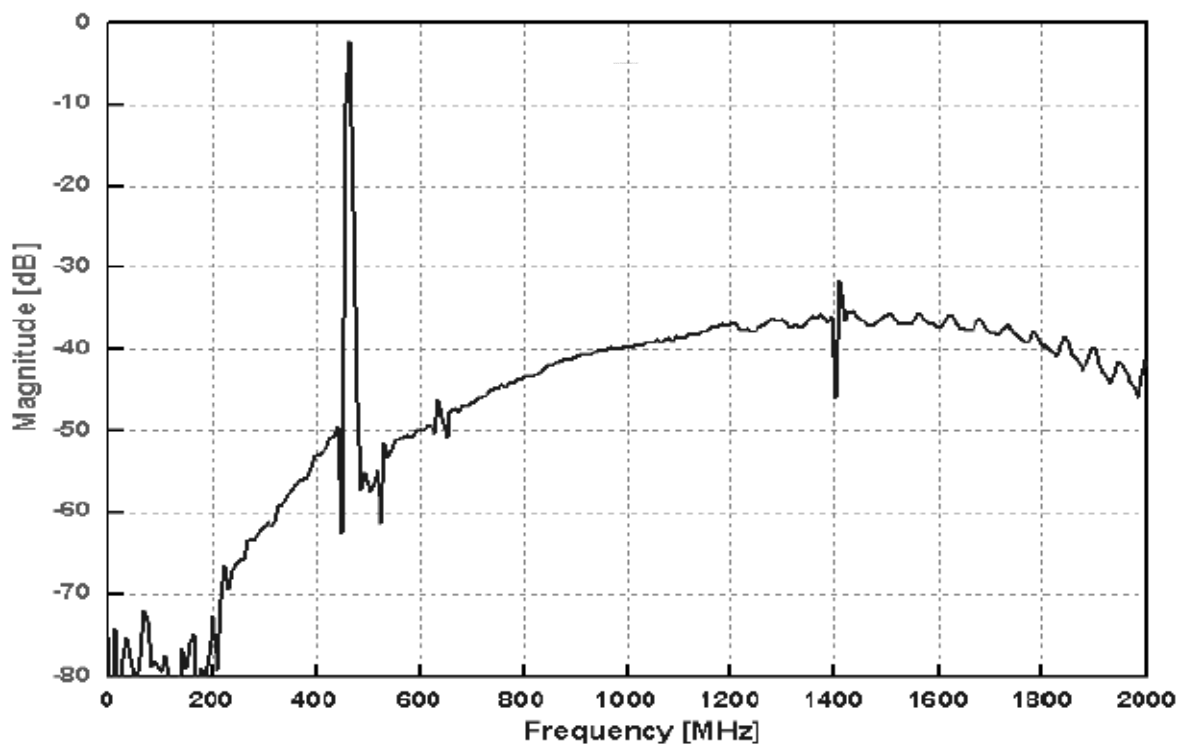
CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

Notes:

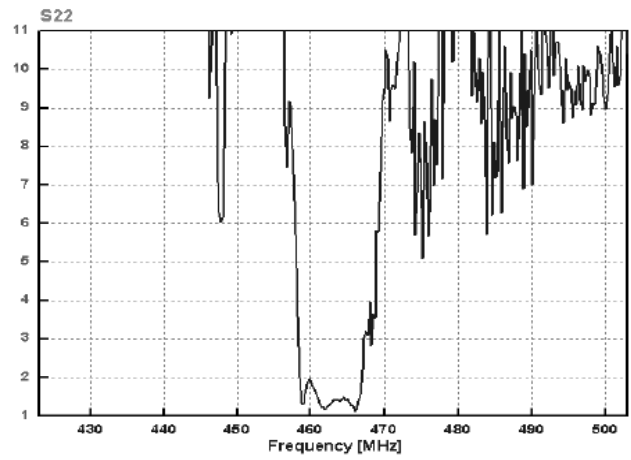
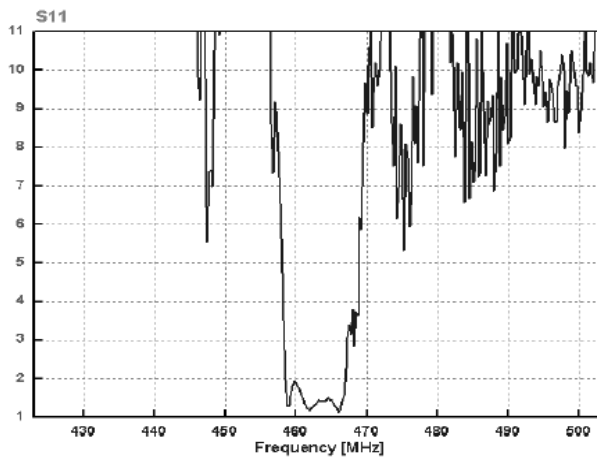
1. Unless noted otherwise, all specifications apply over the operating temperature range with filter soldered to the specified demonstration board with impedance matching to 50 Ω and measured with 50 Ω network analyzer.
2. Unless noted otherwise, all frequency specifications are referenced to the nominal 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" and "ENG" or "E" indicates "engineering prototypes."
5. The design, manufacturing process, and specifications of this filter are subject to change.
6. 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.
7. US and international patents may apply.
8. RFM, stylized RFM logo, and RF Monolithics, Inc. are registered trademarks of RF Monolithics, Inc.



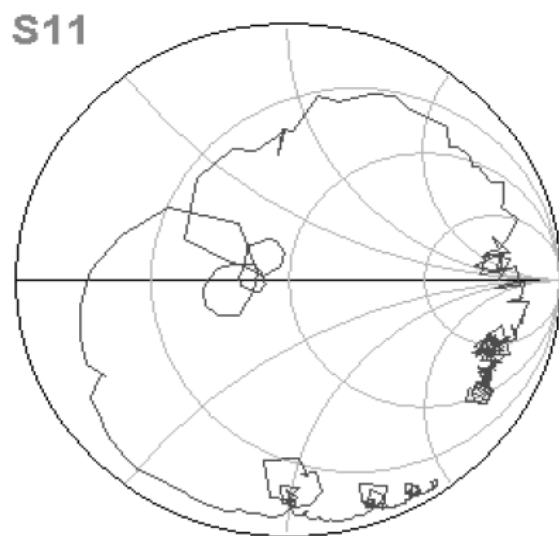
Passband Plot



Wideband Plot



VSWR

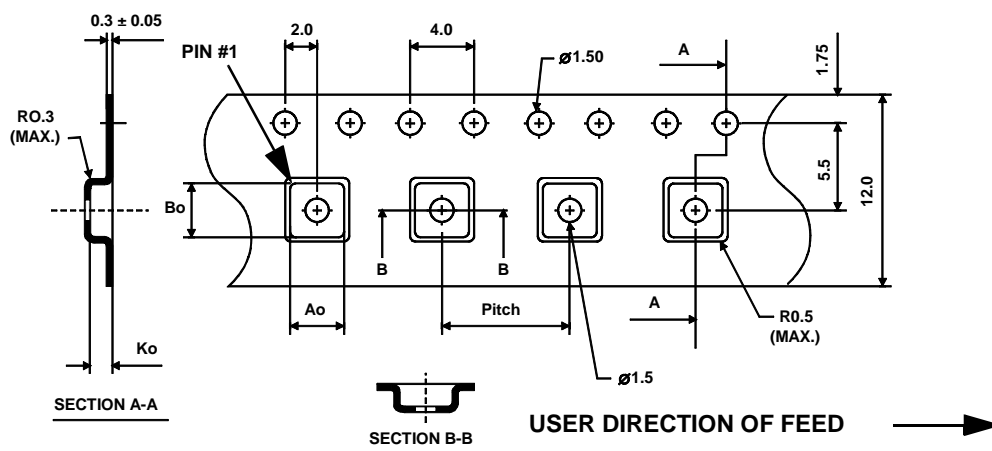


S11 and S22 Plots

Technical drawing of a circular component. The top view shows a large outer circle and a smaller concentric inner circle. A central crosshair indicates the center. A leader line points from the text "See Detail 'A'" to the center of the inner circle. The side view shows the component's profile, which is a thin ring. The outer diameter is labeled as 12.0. The inner diameter is labeled as 100 REF. The total height of the component is labeled as "B" REF. A detail view at the bottom shows a cross-section of the ring with a thickness of 2.0. The inner radius is labeled as 13.0, and the outer radius is labeled as 20.2.

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

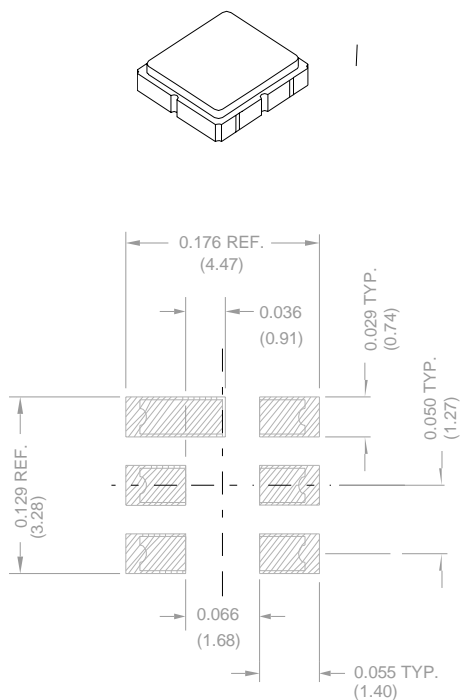
Carrier Tape Dimensions	
Ao	4.25 mm
Bo	4.25 mm
Ko	1.30 mm
Pitch	8.0 mm
W	12.0 mm



SM3838-6 Case

6-Terminal Ceramic Surface-Mount Case

3.8 X 3.8 mm Nominal Footprint



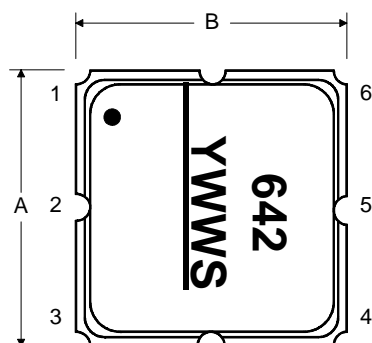
PCB Footprint

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 Termination	Au plating 30 - 60 μ inches (76.2-152 μ m) over 80-200 μ inches (203-508 μ m) Ni.
Lid	Fe-Ni-Co Alloy Electroless Nickel Plate (8-11% Phosphorus) 100-200 μ inches Thick
Body	Al ₂ O ₃ Ceramic
Pb Free	

TOP VIEW



BOTTOM VIEW

