# **Preliminary**



**SF1213D** 

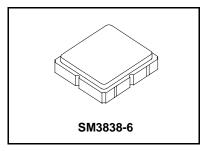
- CDMA 450 F-Band RF SAW Filter
- 3.8 x 3.8 x 1.4 mm Surface-mount Package
- Complies with Directive 2002/95/EC (RoHS)



#### Absolute Maximum Ratings

Aboolato maximam Natingo				
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		°C		
Suitable for Lead-free Soldering - Maximum Soldering Profile 260°C for 30 s		for 30 s		

# 462.5 MHz **SAW Filter**



#### **Electrical Characteristics**

Characteristic			Sym	Notes	Min	Тур	Max	Units
Nominal 1 dB Cent	er Frequency		f <sub>C</sub>			462.5		MHz
Passband Insertion	Loss	460.0 to 464.8 MHz	IL	1		2.8	3.5	dB
VSWR		460.0 to 464.8 MHz				1.9:1	2.4:1	
Rejection		0.3 to 450.0 MHz			40	45		
		450.0 to 455.0 MHz		1, 2, 3	35	46		
		485.0 to 505.0 MHz			40	50		dB
		505.0 to 1200 MHz			30	41		
		1200 to 2000 MHz			20	32		
Operating Temperature Range		T <sub>A</sub>	1	-30		+80	°C	
Impedance at f <sub>c</sub>	Source, single ended		50 ohm			•		
Load, single ended				5	0 ohm			

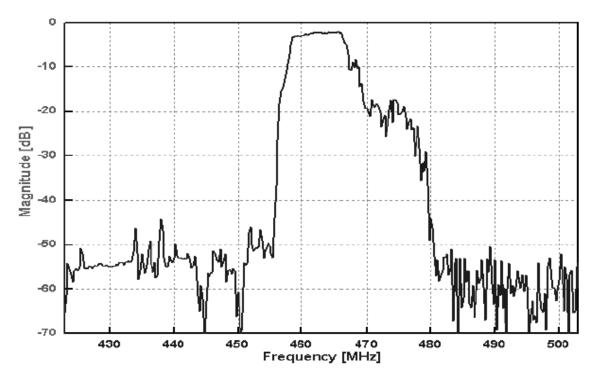
Case Style	SM3838-6 3.8 x 3.8 mm Nominal Footprint
Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator	642, YWWS
Standard Reel Quantity Reel Size 7 Inch	1000 Pieces/Reel
Reel Size 13 Inch	3000 Pieces/Reel

#### **Electrical Connections**

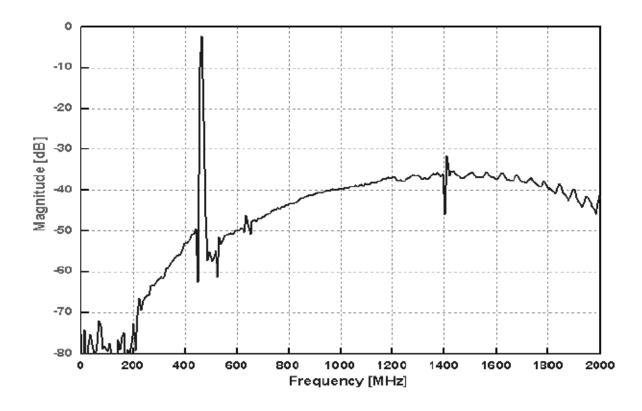
Connection	Terminals
Port 1	2
Port 2	5
Case Ground	All others

# CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

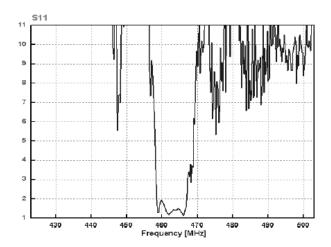
- Unless noted otherwise, all specifications apply over the operating temperature range with filter soldered to the specified demonstration board with impedance matching to 50  $\Omega$  and measured with 50  $\Omega$  network analyzer.
- Unless noted otherwise, all frequency specifications are referenced to the nominal center frequency, fc.
- 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
- "LRIP" or "L" after the part number indicates "low rate initial production"
- and "ENG" or "E" indicates "engineering prototypes."
- The design, manufacturing process, and specifications of this filter are subject to change. 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.
- US and international patents may apply.
  RFM, stylized RFM logo, and RF Monolithics, Inc. are registered trademarks of RF Monolithics, Inc.

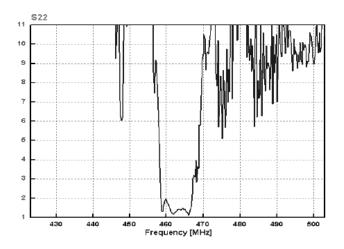


**Passband Plot** 

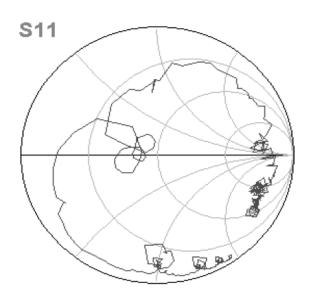


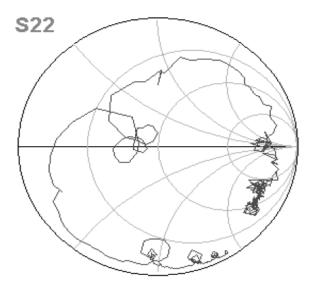
**Wideband Plot** 





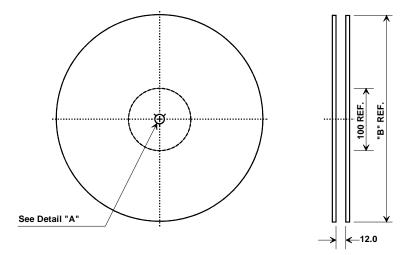
# **VSWR**



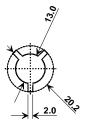


S11 and S22 Plots

# **Tape and Reel Specifications**

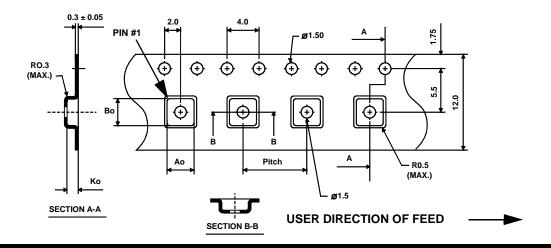


	B " nal Size	Quantity Per Reel
Inches	millimeters	
7	178	1000
13	330	3000



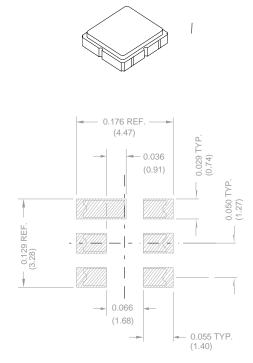
# **COMPONENT ORIENTATION and DIMENSIONS**

Carrier Tape Dimensions		
Ao	4.25 mm	
Во	4.25 mm	
Ко	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
Α	3.60	3.80	4.0	0.14	0.15	0.16
В	3.60	3.80	4.0	0.14	0.15	0.16
С	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
Н	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 indica	tes Pin 1		

	Materials
Solder Pad Ter- mination	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 <sub>2</sub> O <sub>3</sub> Ceramic
Pb Free	

