RFMi
A BRAND OF AKOUSTIS

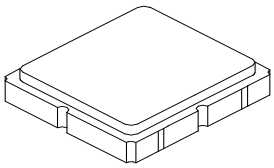
Preliminary

RoHS compliant

SF2390E

869.6 MHz SAW Filter

- ***Surface Mount 3.0 x 3.0 mm Package***
- ***Complies with Directive 2002/95/EC (RoHS)***
- ***Moisture Sensitivity Level: 1***



SM3030-6

Absolute Maximum Ratings

Rating	Value	Units
Input Power Level	10	dBm
DC Voltage on any Non-ground Terminal	6	V
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			869.6		MHz
3dB BW				2.0		MHz
Minimum Insertion Loss						
Excluding loss in matching elements	IL_{MIN}			2.4	3.4	dB
Including loss in matching elements (Q=91)				2.7	3.7	
Passband relative to IL_{MIN} 869.10 to 870.1 MHz				0.4	3.0	
Attenuation (relative to IL_{MIN})						
15.0 to 785.0 MHz			45	52		
785.0 to 850.0 MHz			38	46		
850.0 to 858.0 MHz			36	42		
858.0 to 867.0 MHz			16	26		
873.0 to 878.0 MHz			16	23		dB
878.0 to 896.0 MHz			20	26		
896.0 to 912.0 MHz			36	42		
912.0 to 1000.0 MHz			39	45		
1000.0 to 2000.0 MHz			40	46		
2000.0 to 2500.0 MHz			55	72		
Impedance at Fc, Input $Z_{IN} = R_{IN}//C_{IN}$	Z_S		568Ω //1.12pF			
Impedance at Fc Output $Z_{OUT} = R_{OUT}//C_{OUT}$	Z_L					

Case Style	SM3030-6 3.0 x 3.0 mm Nominal Footprint
Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator	6X, YWWS
Standard Reel Quantity Reel Size 7 Inch	500 Pieces/Reel
Reel Size 13 Inch	3000 Pieces/Reel

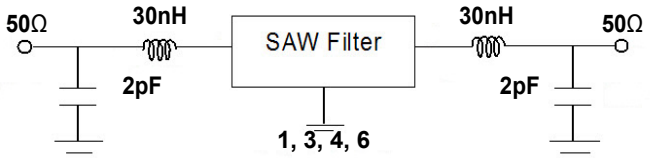
CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

NOTES:

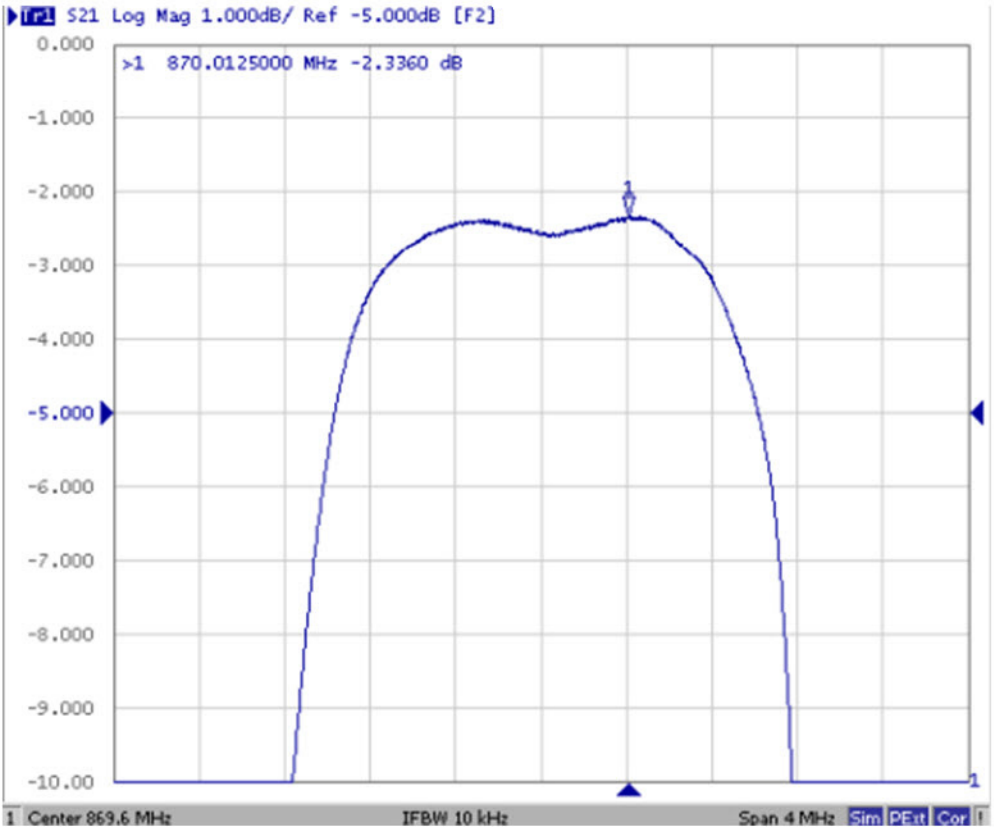
1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

Electrical Connections

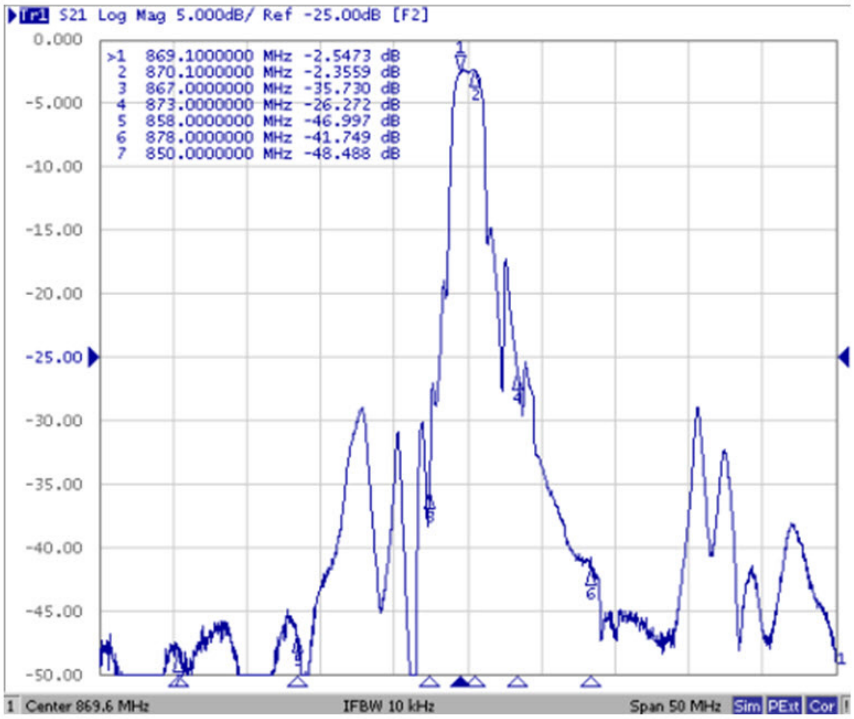
Connection	Terminals
Input	2
Output	5
Case Ground	All others



Frequency Characteristics

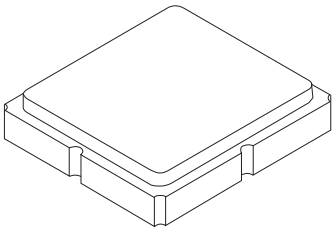


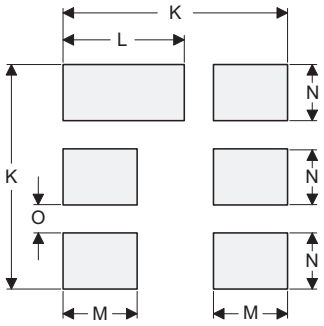
Frequency Characteristics



SM3030-6 Case

6-Terminal Ceramic Surface-Mount Case
3.0 X 3.0 mm Nominal Footprint





PCB Footprint Top View

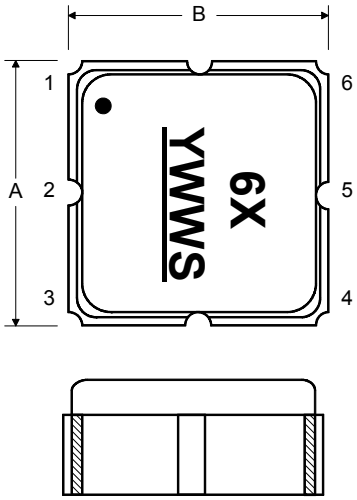
Case and PCB Footprint Dimensions

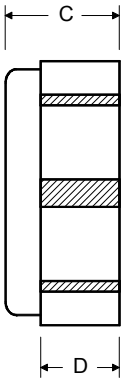
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	2.90	3.00	3.10	0.114	0.118	0.122
B	2.90	3.00	3.10	0.114	0.118	0.122
C	1.03	1.15	1.27	0.040	0.049	0.050
D	0.77	0.90	1.03	0.030	0.035	0.040
E	-	2.54	-	-	0.110	-
F	-	1.60	-	-	0.063	-
G	-	0.85	-	-	0.033	-
H	-	1.50	-	-	0.059	-
I	-	0.60	-	-	0.024	-
J	1.17	1.30	1.43	0.046	0.051	0.056
K	-	3.20	-	-	0.126	-
L	-	1.70	-	-	0.067	-
M	-	1.05	-	-	0.041	-
N	-	0.81	-	-	0.032	-
O	-	0.38	-	-	0.015	-

Case Materials

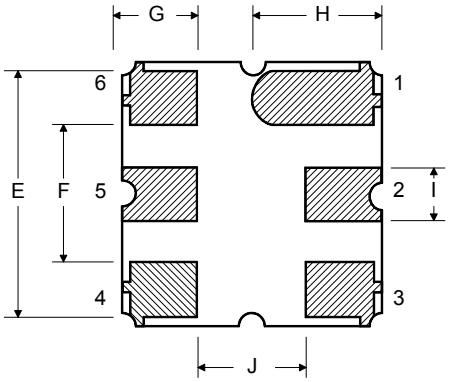
Materials	
Solder Pad Plating	0.3 to 1.0 µm Gold over 1.27 to 8.89 µm Nickel
Lid Plating	2.0 to 3.0 µm Nickel
Body	Al_2O_3 Ceramic

TOP VIEW



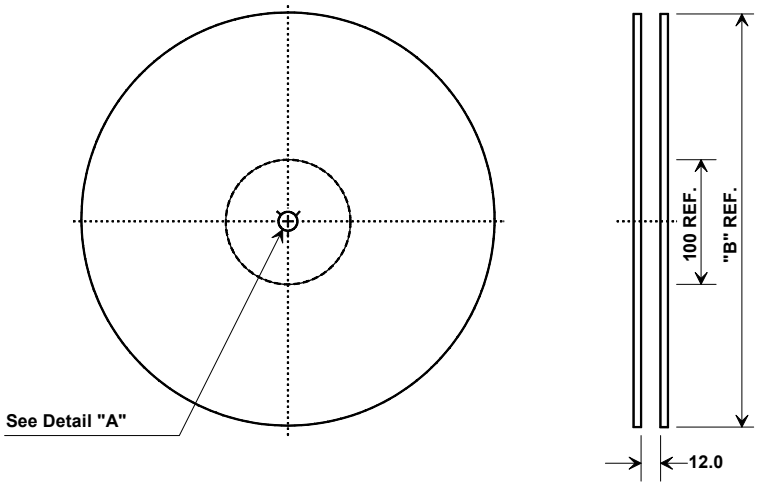


BOTTOM VIEW

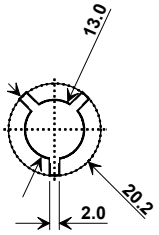


Tape and Reel Specifications

Tape and Reel Standard per ANSI/EIA-481

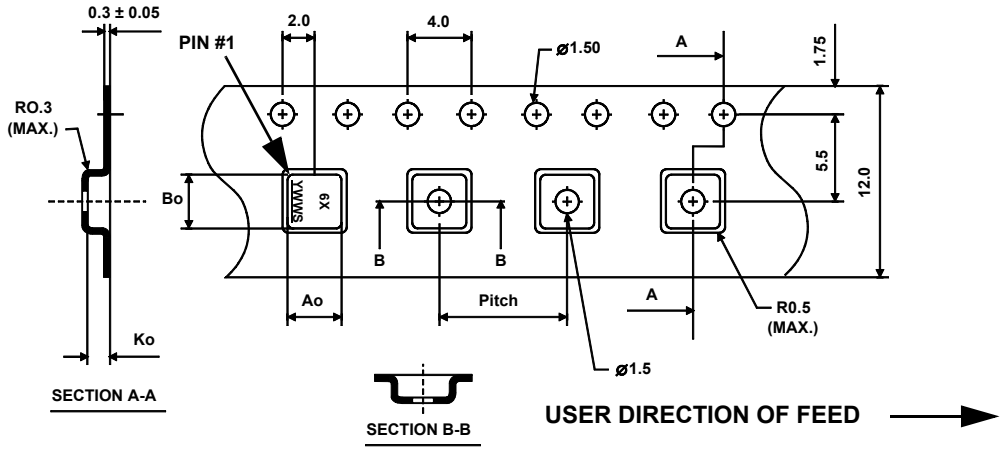


"B"		Quantity Per Reel
Inches	millimeters	
7	178	500
13	330	3000



COMPONENT ORIENTATION and DIMENSIONS

Carrier Tape Dimensions	
Ao	3.35 ± 0.1 mm
Bo	3.35 ± 0.1 mm
Ko	1.40 ± 0.1 mm
Pitch	8.0 ± 0.05 mm
W	12.0 ± 0.3 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.