RFMi
A BRAND OF AKOUSTIS

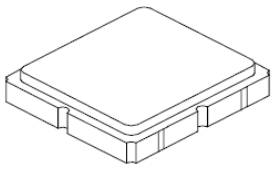
Preliminary

RoHS compliant

SF2323E

314.67 MHz SAW Filter

- ***Low-loss 314.67 MHz SAW Filter***
- ***Designed for 50 ohm Source/Load***
- ***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	3	V
Operating Temperature Range	-40 to +105	°C
Storage Temperature Range in Tape and Reel	-40 to +105	°C
Maximum Soldering Profile, 5 cycles/10 seconds maximum	260	°C
Terminating Source Impedance (Z_S)	50	Ω
Terminating Load Impedance (Z_L)	50	Ω

Electrical Characteristics

Characteristic @ 25°C		Sym	Notes	Min	Typ	Max	Units
Center Frequency		f_C			314.67		MHz
Insertion Loss (incl. loss in matching elements - Q_L=44)		α_{min}			1.9	2.7	dB
(excl. loss in matching elements)					1.0	1.8	dB
Pass Band (relative to α_{min})	314.14 to 315.2 MHz				1.1	2.5	dB
	314.12 to 315.22 MHz				1.3	3.0	dB
Relative Attenuation (relative to α_{rel})		α_{rel}					
10 to 250 MHz				57	62		dB
250 to 305 MHz				47	52		dB
305 To 310 MHz				30	35		dB
310 to 314.4 MHz				13	18		dB
316 to 318 MHz				10	15		dB
318 to 323 MHz				20	25		dB
323 to 325 MHz				27	32		dB
325 to 330 MHz				34	39		dB
330 to 375 MHz				44	49		dB
375 to 550 MHz				55	60		dB
550 to 2500 MHz				60	65		dB
Impedance for Pass Band Matching							
Input: $Z_{IN} = R_{IN}$ II C_{IN}					790 II 2.8		ΩII pF
Output: $Z_{OUT} = R_{OUT}$ II C_{OUT}					790 II 2.8		ΩII pF

Case Style		SM3030-6 3.0 x 3.0 mm Nominal Footprint
Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator		A84, YWWS
Standard Reel Quantity	Reel Size 7 inch	500 Pieces/Reel
	Reel Size 13 inch	3000 Pieces/Reel

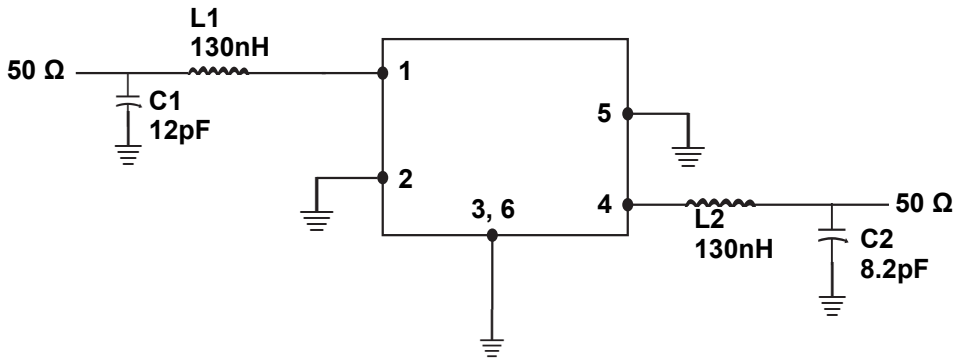
CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

NOTES:

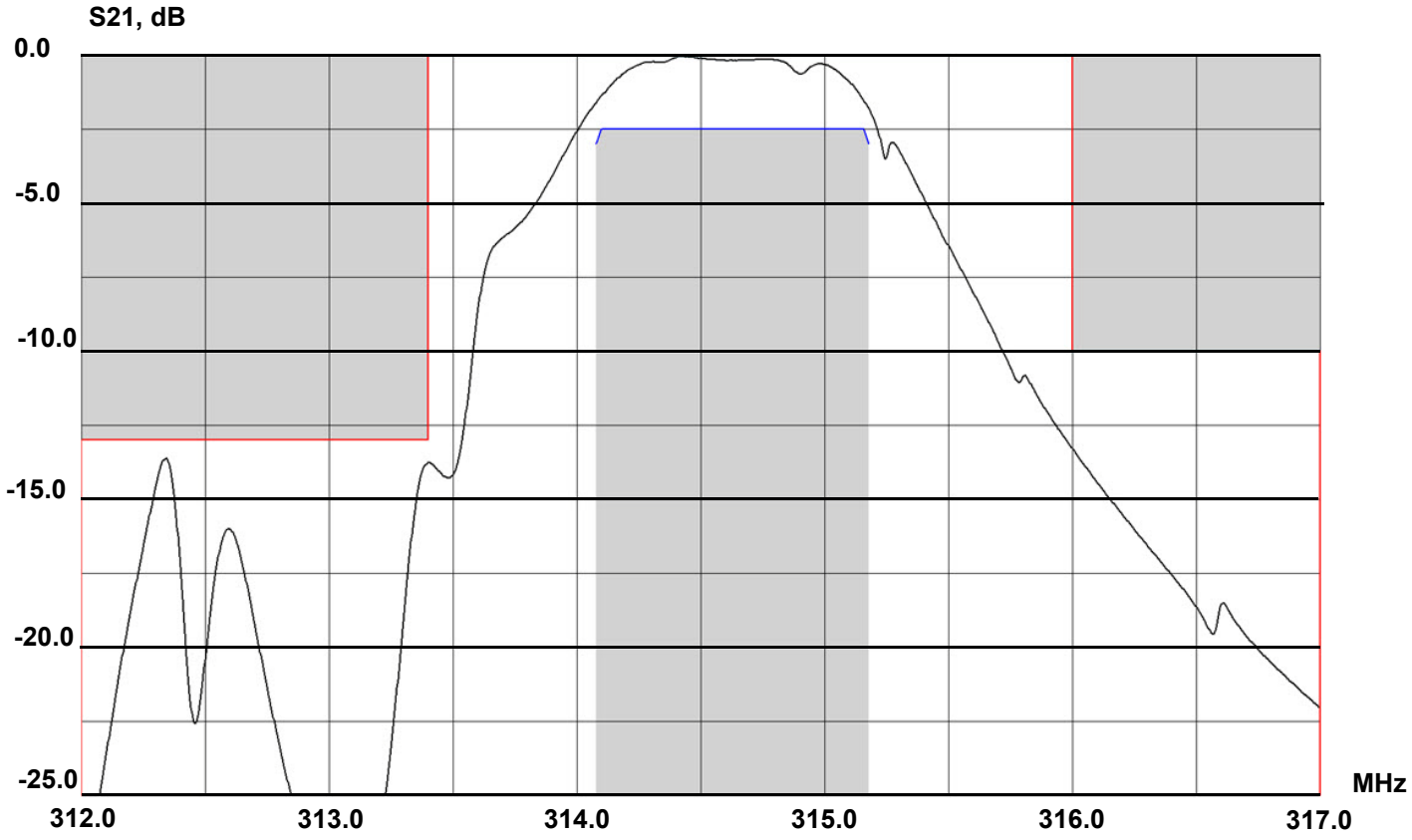
1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

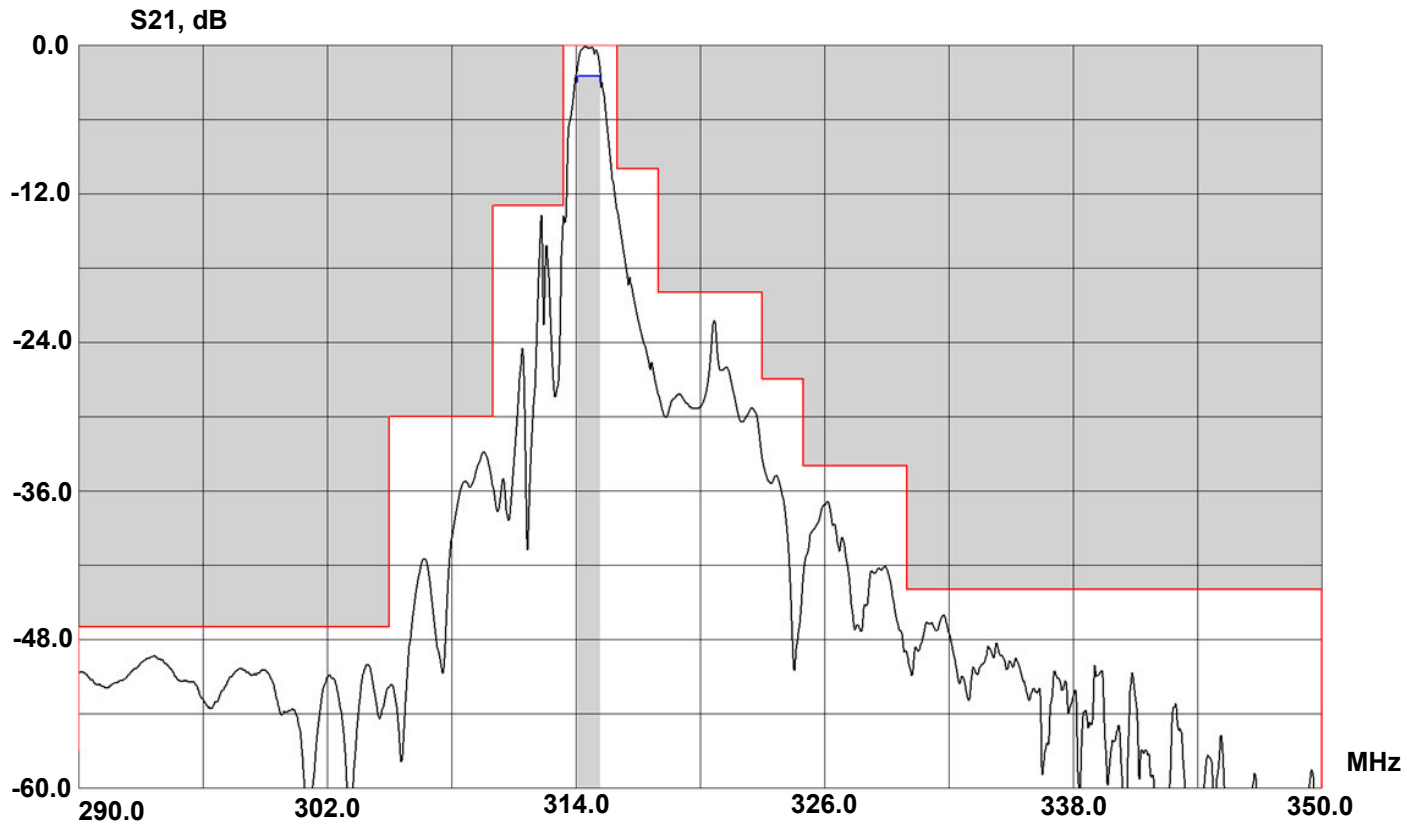
Electrical Connections

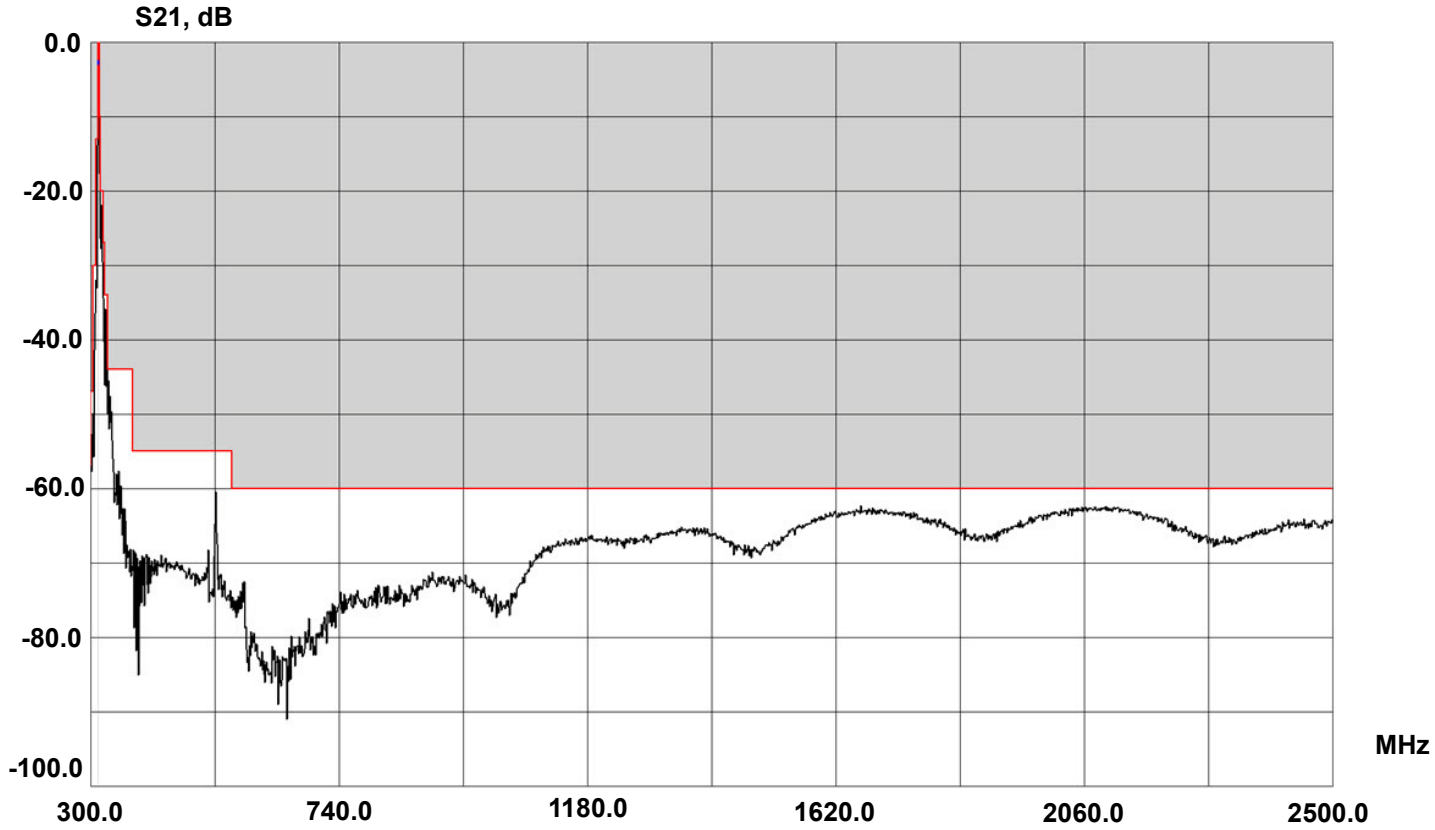
Connection	Terminals
Input or Input Ground	1
Input Ground or Input	2
Output or Output Ground	4
Output Ground	5
Grounded	3, 6



Frequency Characteristics:

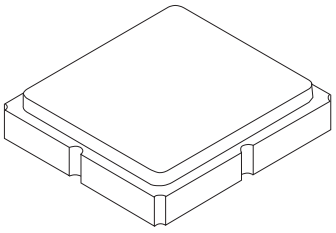


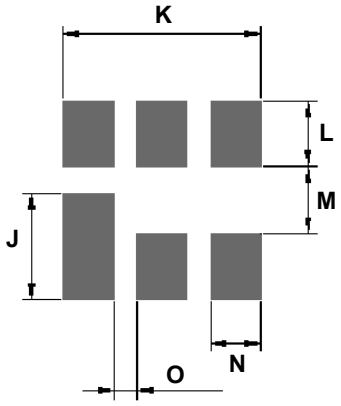

S21, dB
0.0
-12.0
-24.0
-36.0
-48.0
-60.0
290.0
302.0
314.0
326.0
338.0
350.0
MHz


S21, dB
0.0
-20.0
-40.0
-60.0
-80.0
-100.0
300.0
740.0
1180.0
1620.0
2060.0
2500.0
MHz

SM3030-6 Case

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





PCB Footprint

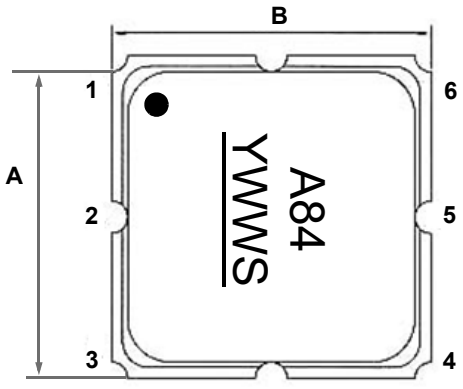
Case and PCB Footprint Dimensions

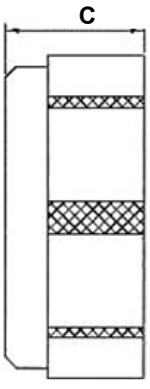
Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	2.85	3.00	3.15	0.112	0.118	0.124
B	2.85	3.00	3.15	0.112	0.118	0.124
C	-	-	1.40	-	-	0.055
D	2.39	2.54	2.69	0.094	0.100	0.105
E	1.45	1.60	1.75	0.057	0.062	0.068
F	0.70	0.85	0.90	0.027	0.033	0.003
G	1.35	1.50	1.65	0.053	0.059	0.064
H	0.45	0.60	0.75	0.017	0.023	0.029
I	1.15	1.30	1.45	0.045	0.051	0.057
J	-	1.70		-	0.066	-
K	-	3.20	-	-	0.125	-
L	-	1.05	-	-	0.041	-
M	-	1.09	-	-	0.042	-
N	-	0.81	-	-	0.031	-
O	-	0.38	-	-	-0.014	-

Case Materials

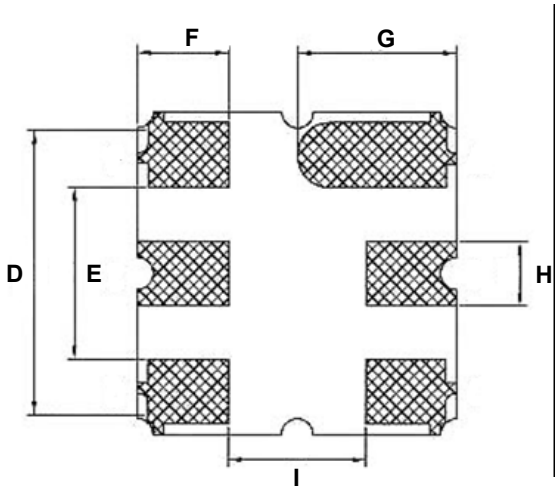
Materials	
Solder Pad Plating	0.3 to 1.0 µm Gold over 1.27 to 8.89 µm Nickel
Lid Plating	2.0 to 3.0 µm Nickel
Body	Al_2O_3 Ceramic

TOP VIEW



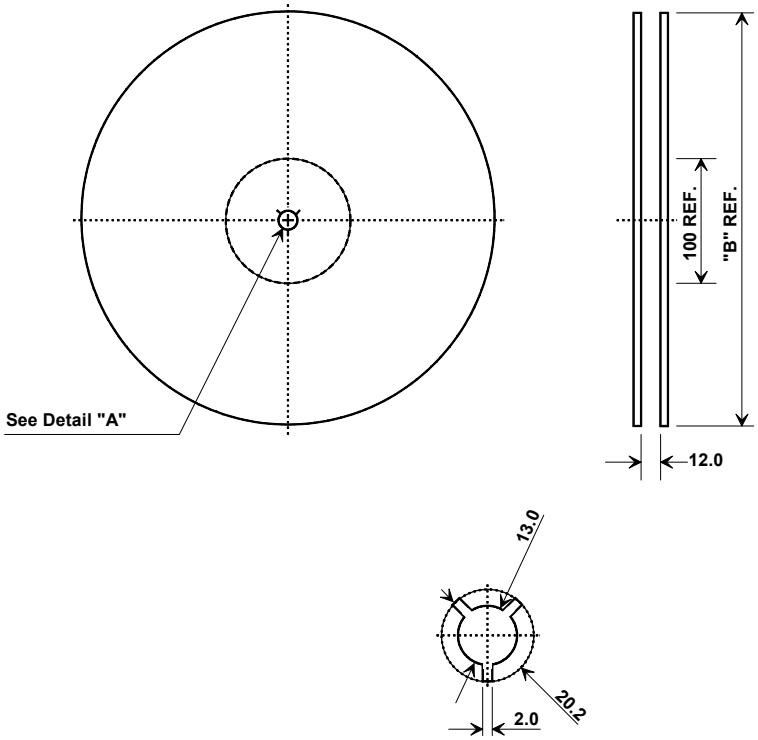


BOTTOM VIEW



Tape and Reel Specifications

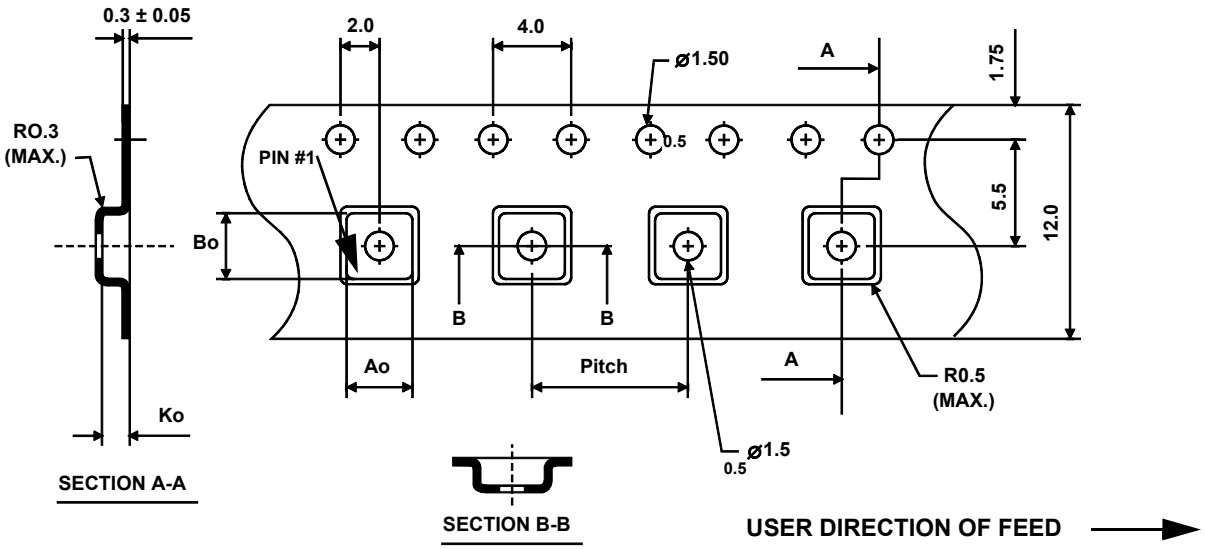
Tape and Reel Standard per ANSI/EIA-481



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

COMPONENT ORIENTATION and DIMENSIONS

Carrier Tape Dimensions	
Ao	3.35 mm
Bo	3.35 mm
Ko	1.40 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.