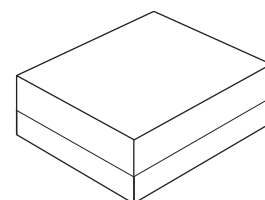


SF2352K

**403.5 MHz
SAW Filter**



SM1411-5

- 403.5 MHz SAW RF Filter
- 3 MHz Bandwidth
- 1.4 x 1.1 mm Surface-mount Case
- Complies with Directive 2002/95/EC (RoHS)
- Moisture Sensitivity Level: 1
- AEC-Q200 Qualified

Absolute Maximum Ratings

Rating	Value	Units
Maximum Incident Power in Passband	+17	dBm
Maximum DC Voltage On any Non-ground Terminal	3	VDC
Operating Temperature Range	+0 to +55	°C
Storage Temperature Range in Tape and Reel	-20 to +70	°C
Maximum Soldering Temperature Profile (5 cycles maximum)	265 °C for 10 s	

Electrical Characteristics

Characteristic	Sym	Notes	Min	Typ	Max	Units		
Center Frequency at 25°C	f_c			403.50		MHz		
Insertion Loss, 402 to 405 MHz	IL		1.0	2.1	3.0	dB		
-1.5dB Bandwidth	BW		3.0	5.3		MHz		
Passband Ripple, 402 to 405 MHz	$\Delta\alpha$			0.5	1.5	dB		
Input VSWR 402 to 405 MHz				1.7	2.0			
Output VSWR 402 to 405 MHz				1.7	2.0			
Attenuation (relative to IL)	α_{rel1}					dB		
DC to 339.5 MHz							38	65
339.5 to 358.5 MHz							38	66
358.5 to 383.5 MHz							37	58
423.5 to 448.5 MHz							30	36
448.5 to 467.5 MHz							35	57
467.5 to 500 MHz							35	58
500 to 700 MHz							33	51
700 to 1000 MHz							33	49
1000 to 1210 MHz	35	46						
1210 to 2500 MHz	33	38						
Temperature Coefficient of Frequency				-36	10	ppm/C°		
DC Insulation Resistance Between Any Two Pins	Z_L		1.0			MΩ		
Case	1.4 x 1.1 x 0.7 mm, 5 Terminals							



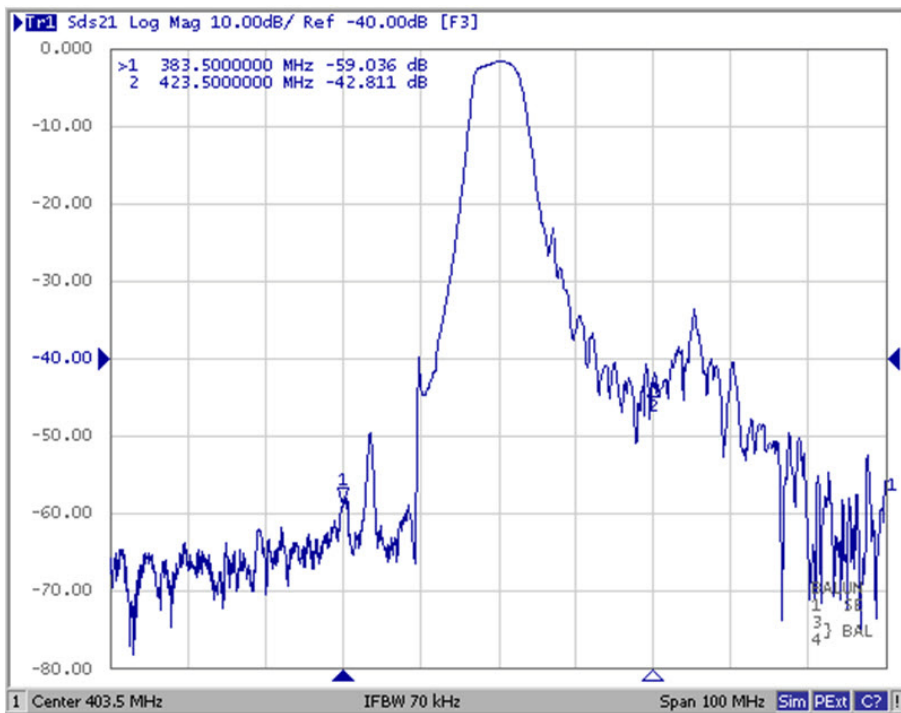
CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

NOTES:

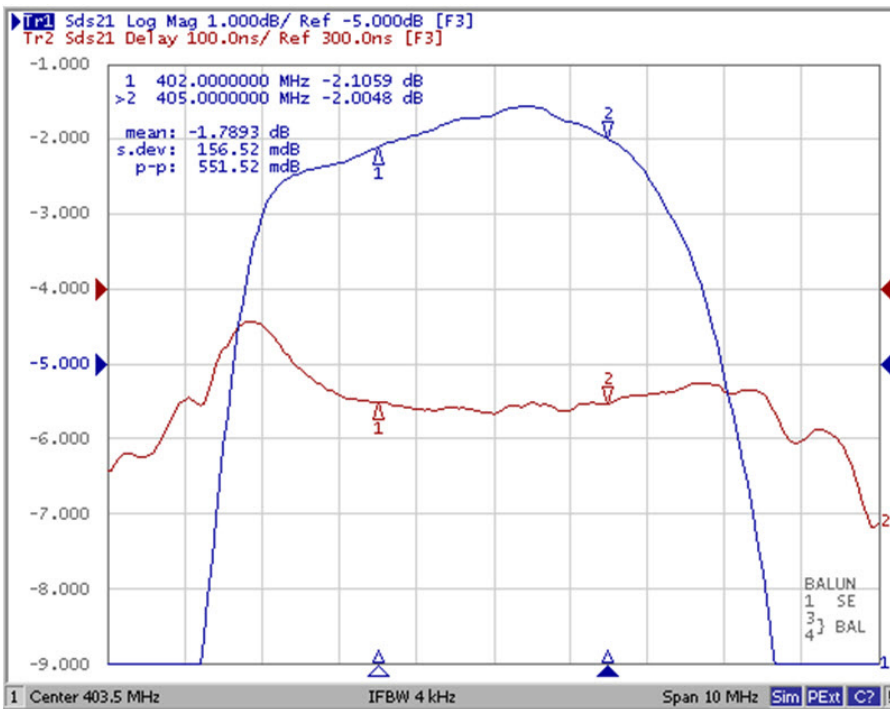
1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

Frequency Response Plots

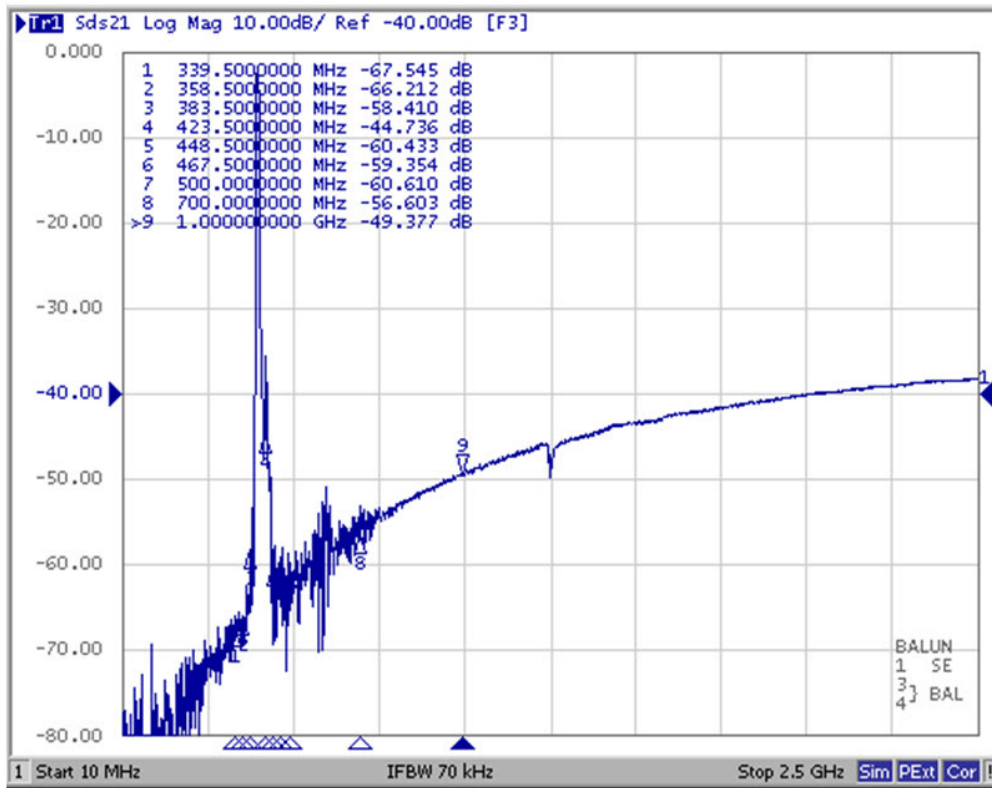
S21 Response - span 100 MHz



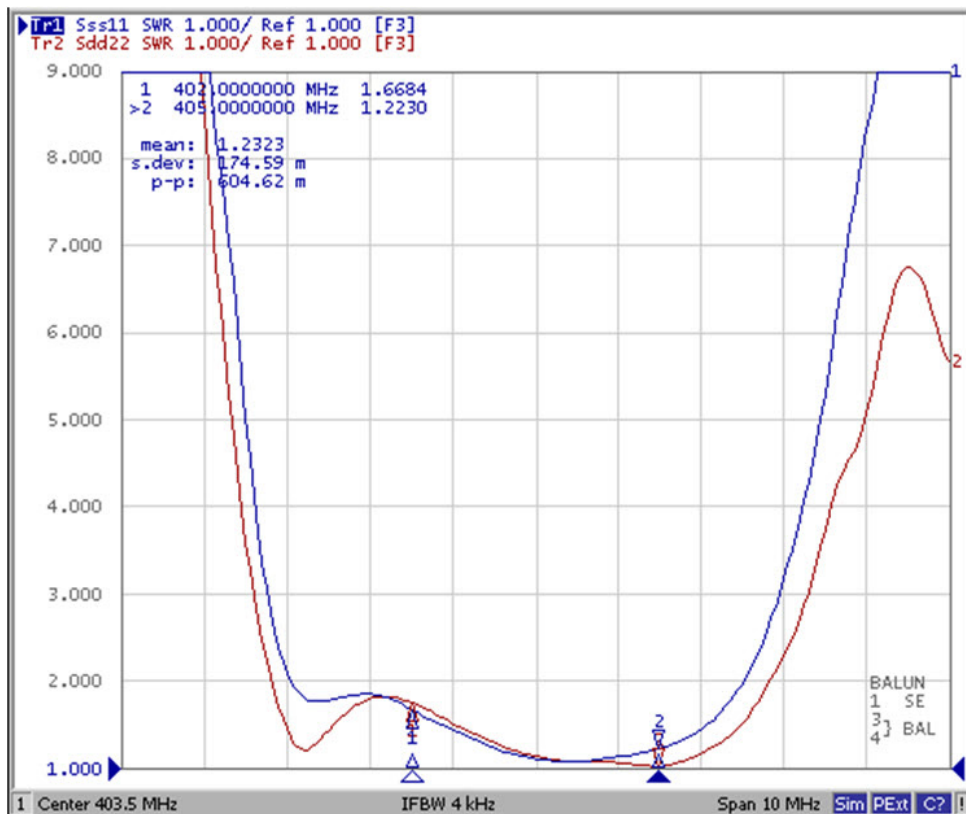
S21 Response - span 10 MHz



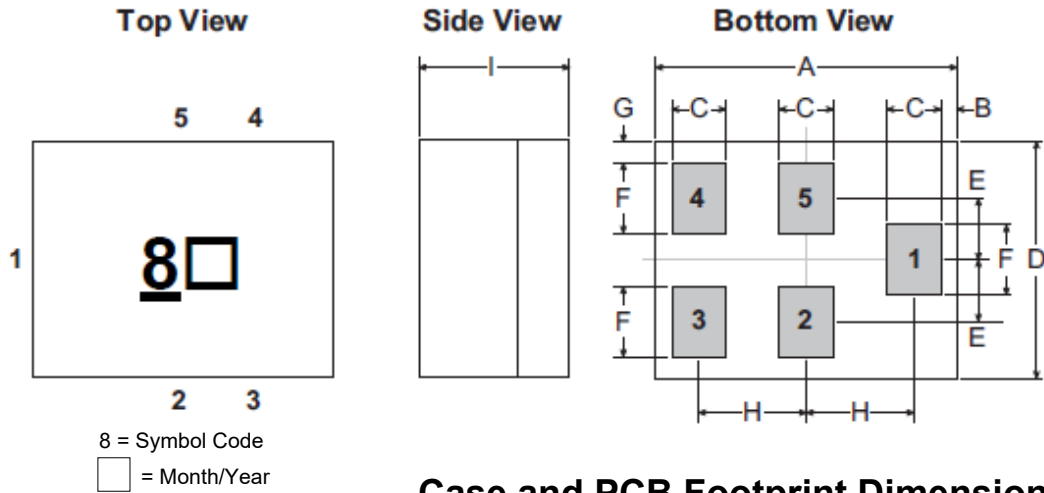
S21 Response - span 10 MHz



S21 Response - span 10 MHz



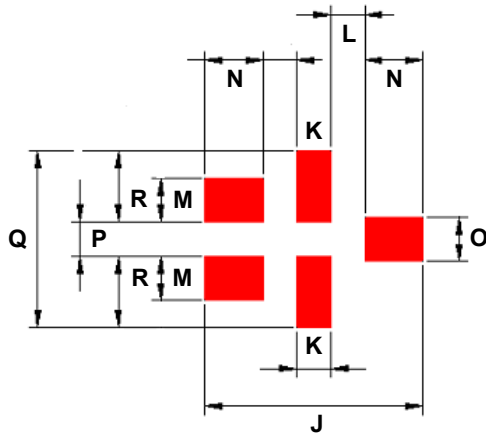
SM1411-5 1.4 X 1.1 mm 5-Terminal Surface-mount Case Drawing



Case and PCB Footprint Dimensions

Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	1.3500	1.4000	1.4500	0.0531	0.0551	0.0571
B	-	0.0750	-	-	0.0030	-
C	0.1700	0.2500	0.3300	0.0067	0.0098	0.0130
D	1.0500	1.1000	1.1500	0.0413	0.0433	0.0453
E	-	0.2875	-	-	0.0113	-
F	0.2450	0.3250	0.4050	0.0096	0.0128	0.0159
G	-	0.1000	-	-	0.0039	-
H	-	0.5000	-	-	0.0196	-
I	-	-	0.7000	0.0236	0.0256	0.0276
J	-	1.6000	-	-	0.0629	-
K	-	0.2500	-	-	0.0138	-
L	-	0.2500	-	-	0.0098	-
M	-	0.3250	-	-	0.0127	-
N	-	0.4250	-	-	0.0167	-
O	-	0.3250	-	-	0.0394	-
P	-	0.2500	-	-	0.0098	-
Q	-	1.3000	-	-	0.0511	-
R	-	0.5250	-	-	0.0206	-

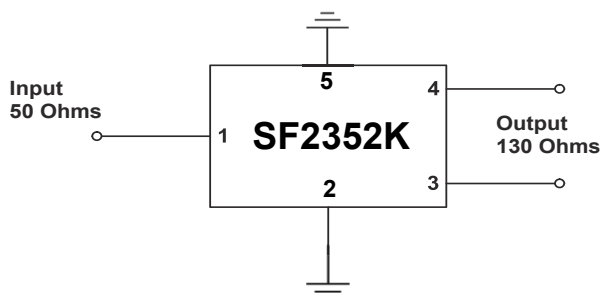
PCB Footprint



Materials

Solder Pad Plating	0.3 to 1.0 μm Gold over 1.27 to 8.89 μm Nickel
Lid Plating	Plastic molding
Body	Al_2O_3 Ceramic

Test Circuit



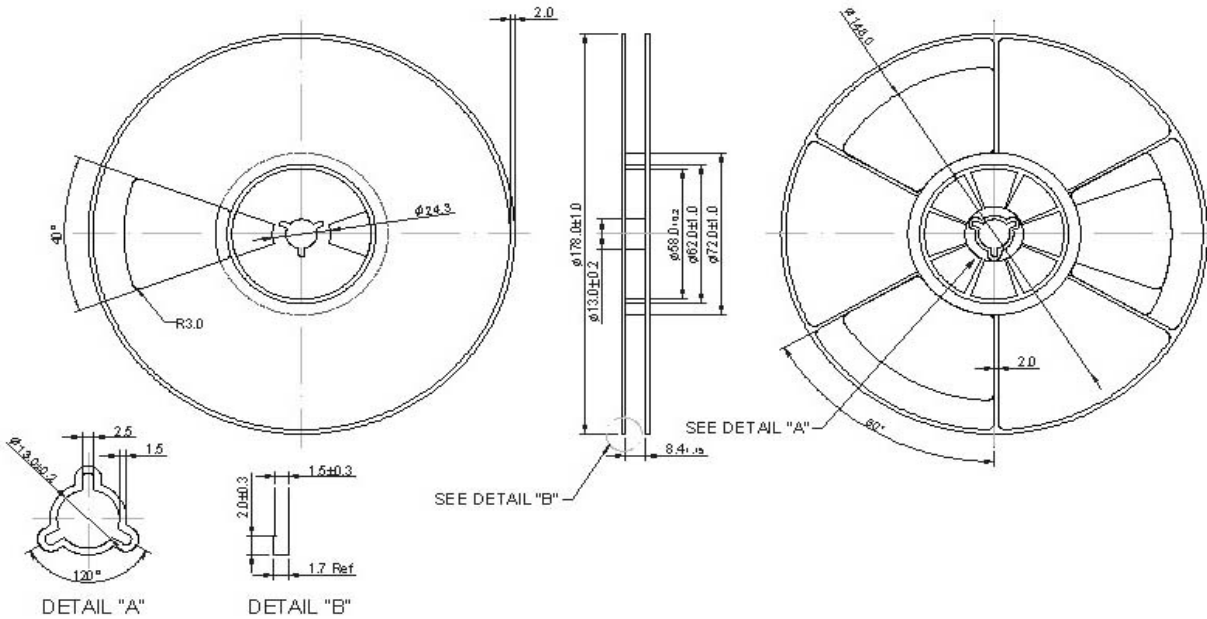
Pin Description

1	Input
3, 4	Output
2, 5	Ground

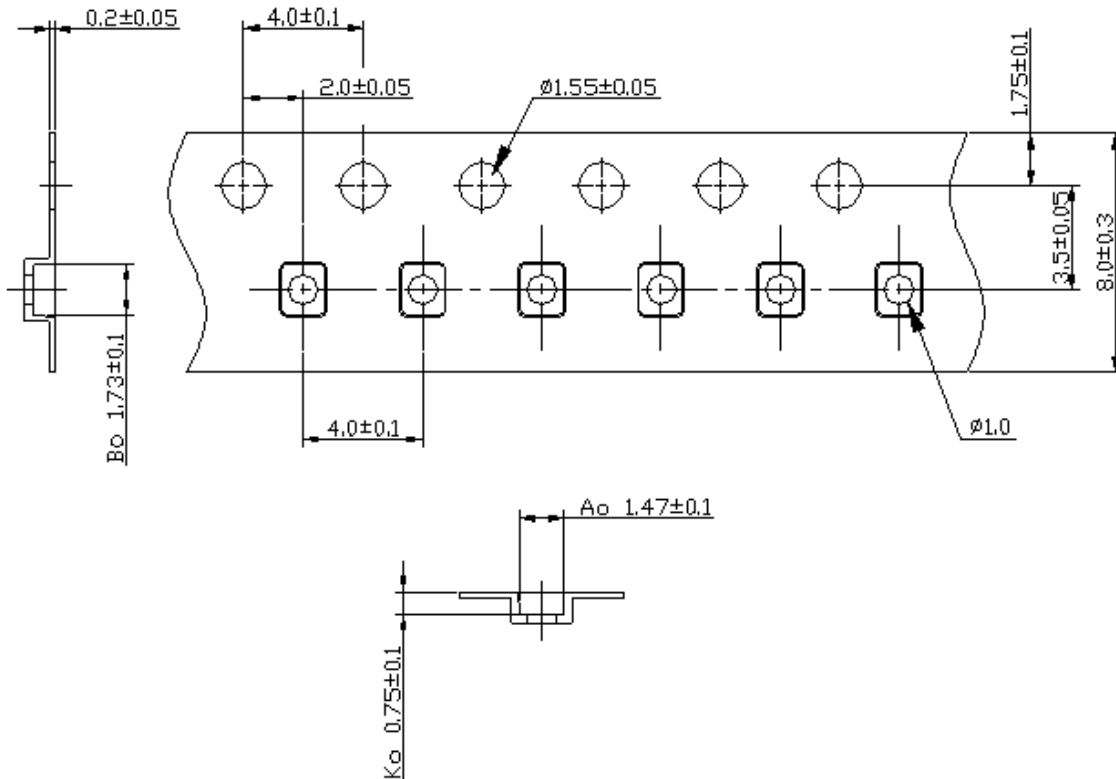
Reel Dimensions

Reel Count:
 7" = 3000
 13" = 10,000

Tape and Reel Standard per ANSI/EIA-481



Tape Dimensions



Recommended Reflow Profile

1. Preheating shall be fixed at 150~180°C for 60~90 seconds.
2. Ascending time to preheating temperature 150°C shall be 30 seconds min.
3. Heating shall be fixed at 220°C for 50~80 seconds and at 260°C +0/-5°C peak (10 seconds).
4. Time: 5 times maximum.

