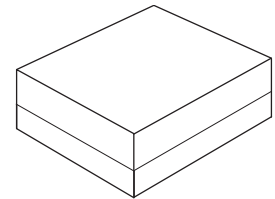


**SF2352K**

**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)



#### 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)	$\alpha_{rel1}$					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				
Lid Symbolization, □ = week character, A-Z and a-z, 52 total characters		g				



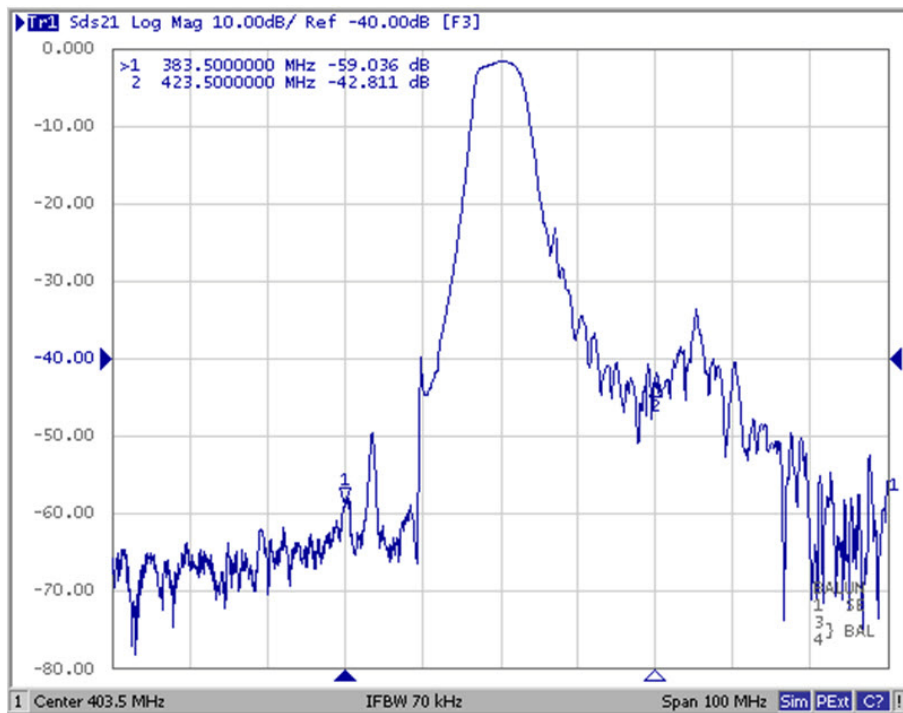
**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

#### NOTES:

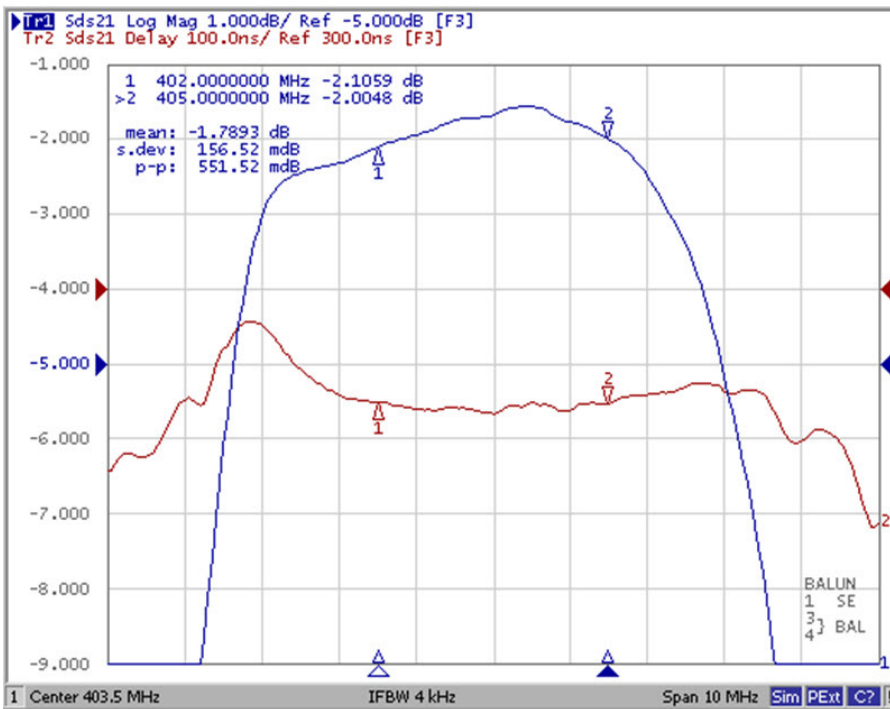
1. US and international patents may apply.
2. Murata, stylized Murata logo, and Murata N.A., Inc. are registered trademarks of Murata Manufacturing Co., Ltd.

## Frequency Response Plots

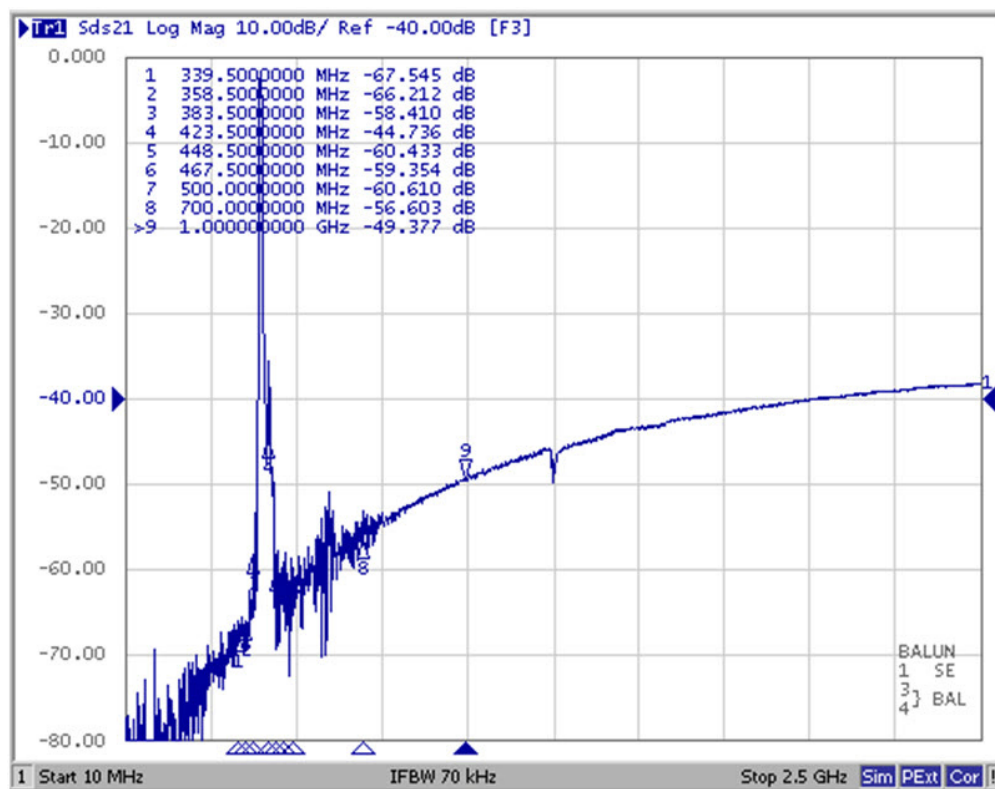
### S21 Response - span 100 MHz



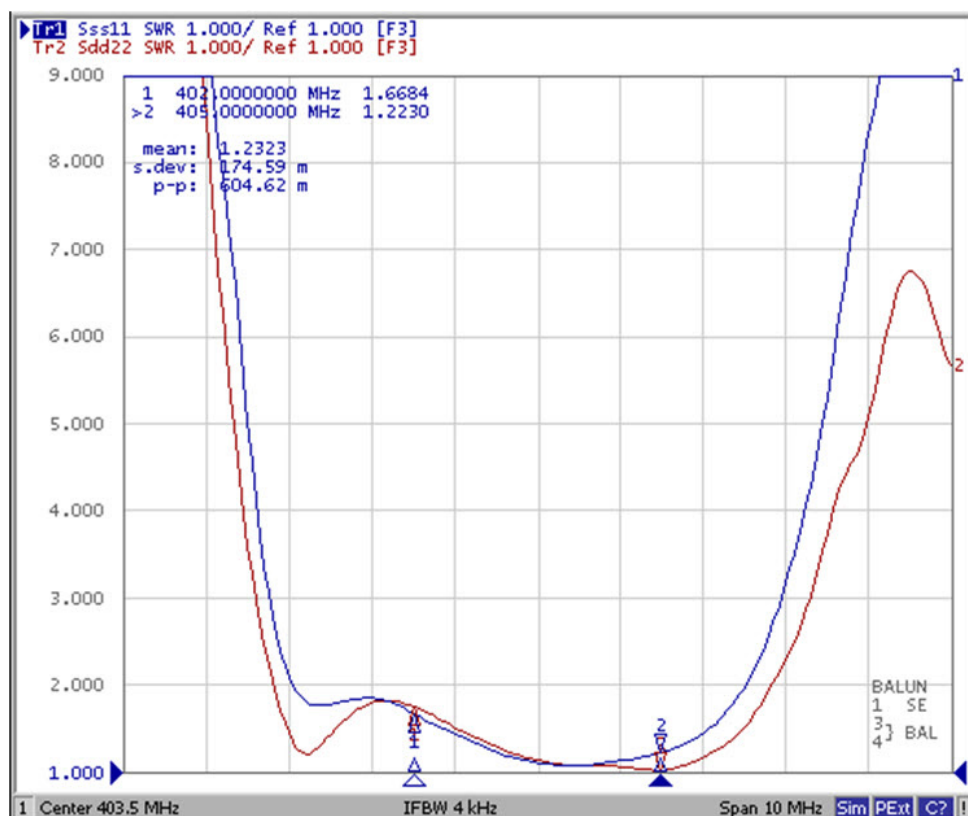
### S21 Response - span 10 MHz



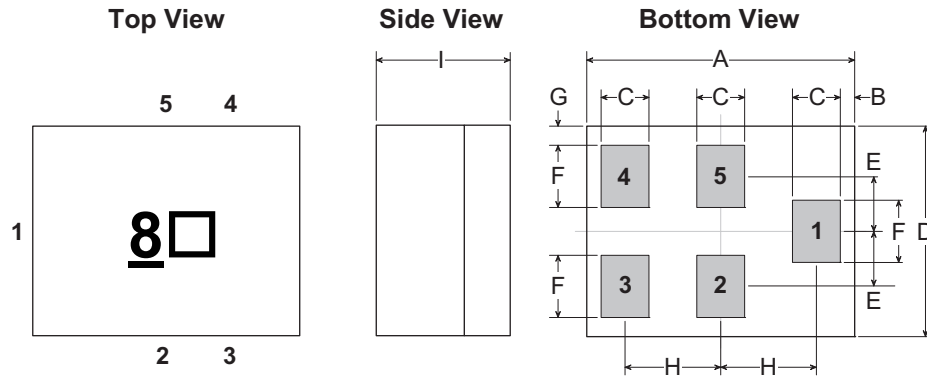
## S21 Response - span 10 MHz



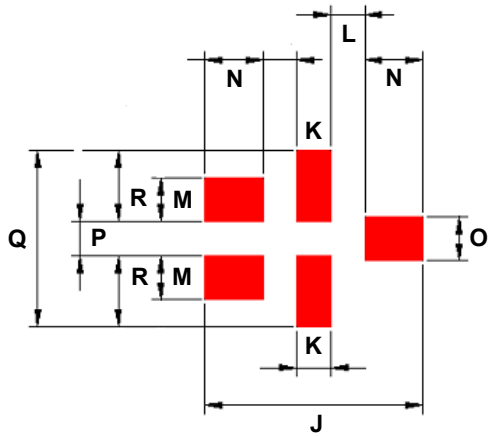
## S21 Response - span 10 MHz



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



## PCB Footprint



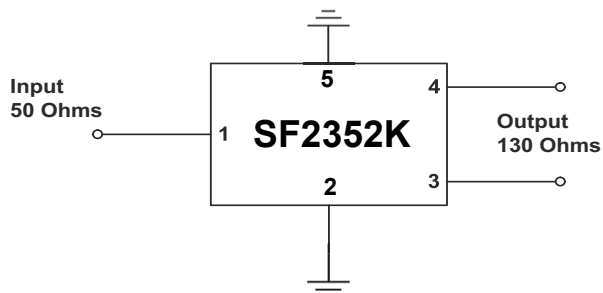
## Case and PCB Footprint Dimensions

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	0.250	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	-	0.100	-	-	0.0039	-
H	-	0.5000	-	-	0.0196	-
I	-	-	0.700	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	-

## Materials

Solder Pad Plating	0.3 to 1.0 $\mu$ m Gold over 1.27 to 8.89 $\mu$ m Nickel
Lid Plating	Plastic molding
Body	Al <sub>2</sub> O <sub>3</sub> Ceramic
Pb Free	

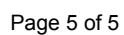
## Test Circuit



## Pin Description

1	Input
3, 4	Output
2, 5	Ground

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SF2352K (R) 6/26/14



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