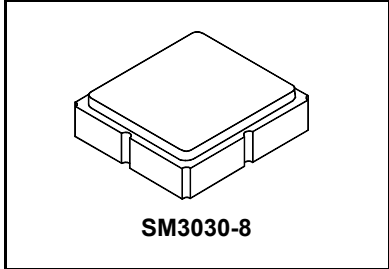


**SF1219E**

**2338.75 MHz  
SAW Filter**



- **Low-loss UHF SAW Filter**
- **Single-ended Input, Balanced Output**
- **3.0 x 3.0 mm Surface-mount Package**
- **Complies with Directive 2002/95/EC (RoHS)**
- **Moisture Sensitivity Level: 1**
- **AEC-Q200 Qualified**

**Maximum Rating**

Rating	Value	Units
Input Power Level	+15	dBm
DC Voltage on any Non-ground Terminal	3	V
Operating Temperature Range	-40 to +105	°C
Component Storage Temperature Range	-40 to +105	°C
Tape and Reel Storage Temperature Range	-40 to +85	°C
Solder Reflow Temperature, 10 seconds/5 cycles maximum	260	°C

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	$f_c$			2338.75		MHz
Maximum Insertion Loss, 2332.5 to 2345 MHz	$IL_{MAX}$			2.8	4.5	dB
Amplitude Ripple, 2332.5 to 2345 MHz				0.2	1.4	dB <sub>p-p</sub>
Group Delay Ripple, 2332.5 to 2345 MHz				4	12	ns <sub>p-p</sub>
Input Return Loss, 2332.5 to 2345 MHz			6.5	13		dB
Output Return Loss, 2332.5 to 2345 MHz			6.5	10		dB
Attenuation, 0 dB Reference:						
88 to 108 MHz			60	80		dB
880 to 960 MHz			55	69		
1710 to 1910 MHz			40	50		
2305 MHz				22		
2310 MHz				17		
2315 MHz				11		
2320 MHz				7		
2450 MHz			30	44		
3060 MHz			35	58		
Single-ended Source Impedance				50		ohm
Balanced Load Impedance				100		

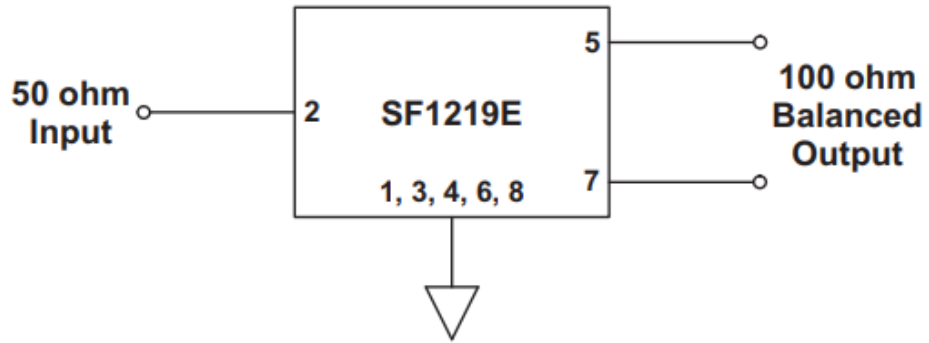
Case Style	SM3030-8 3.0 x 3.0 mm Nominal Footprint		
Lid Symbolization, Y=year, WW=week, S=shift, dot=pin 1 indicator	953, <u>YWWS</u>		
Standard Reel Quantity	Reel Size 7 inch	500 Pieces/Reel	
	Reel Size 13 inch	3000 Pieces/Reel	

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

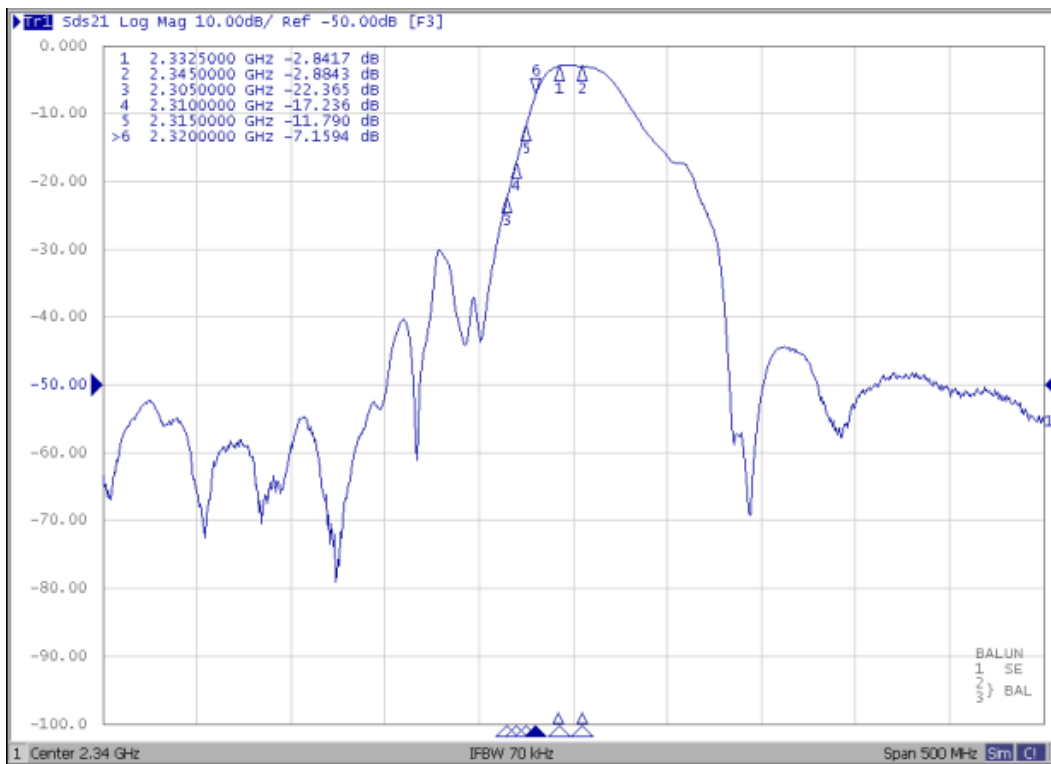
**NOTES:**

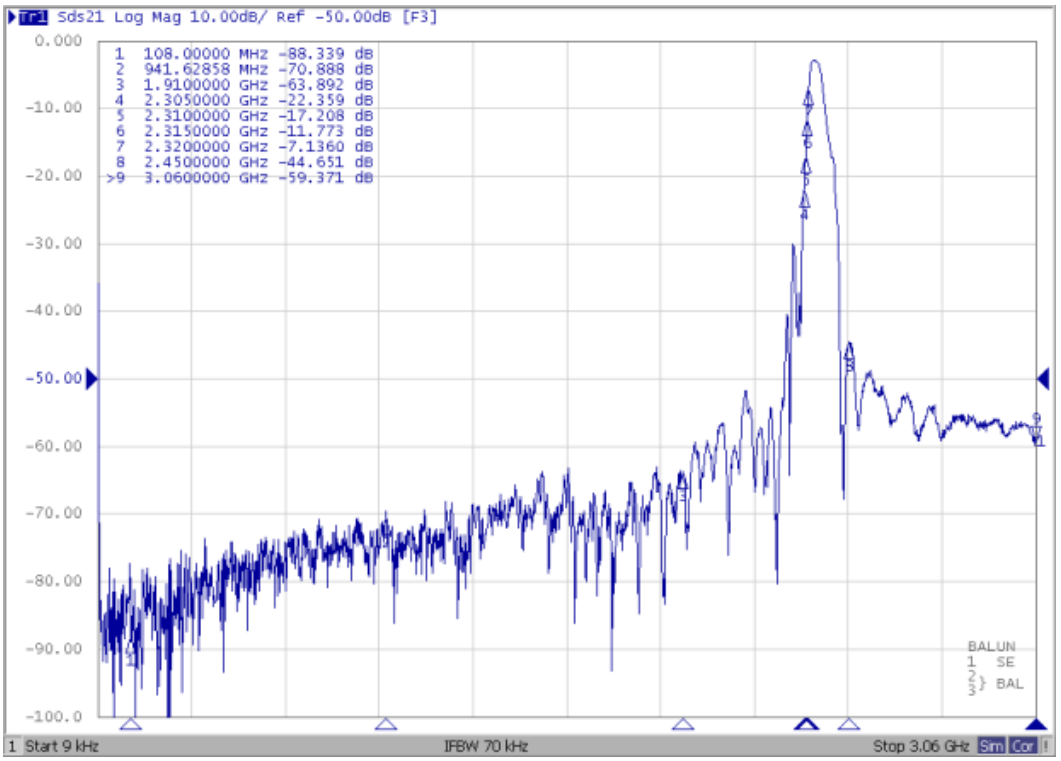
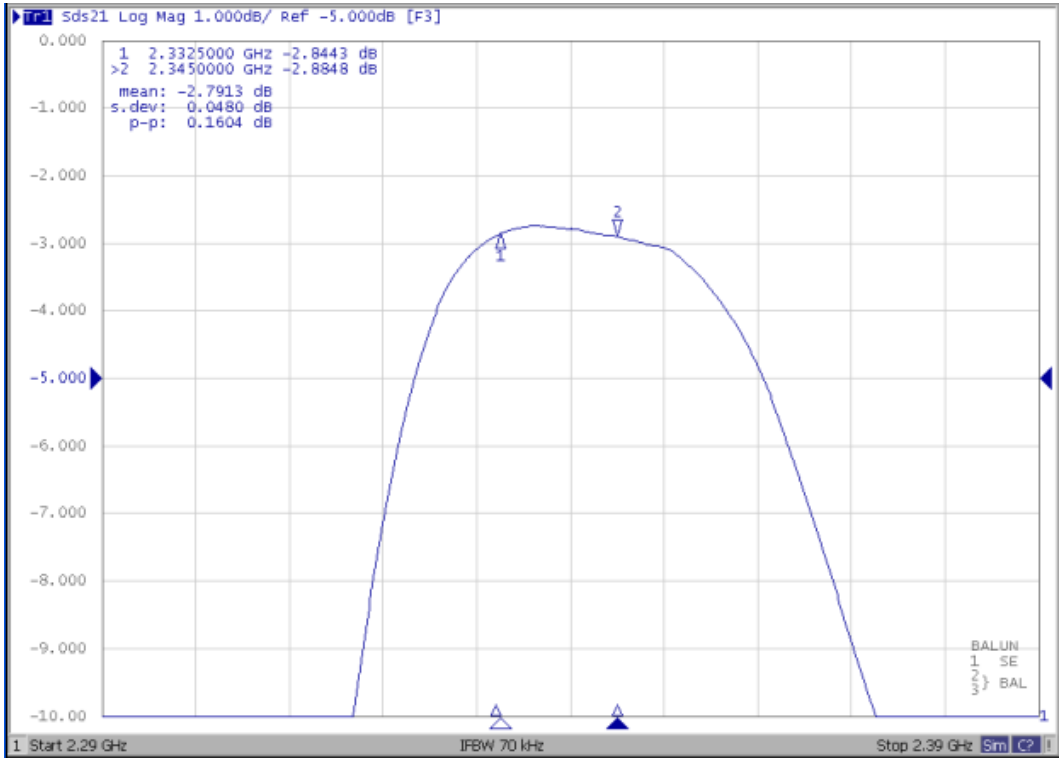
1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

# Test Circuit

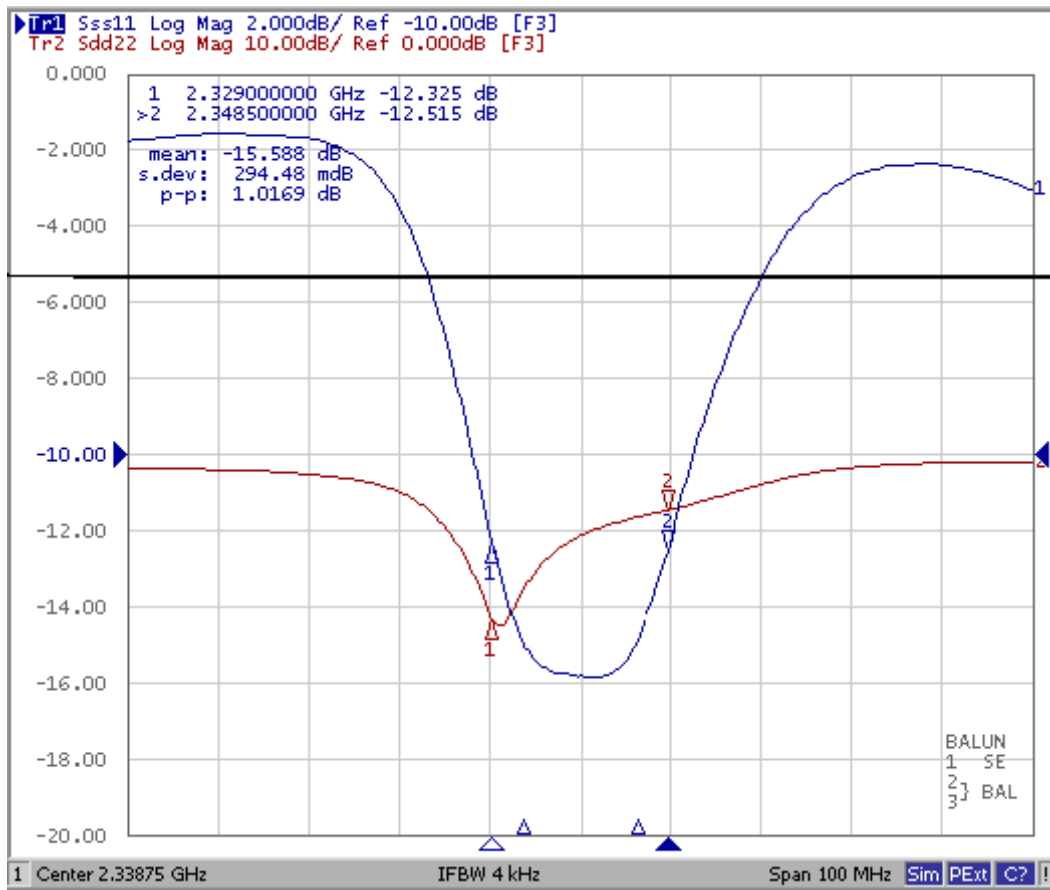


# Filter Response Plots

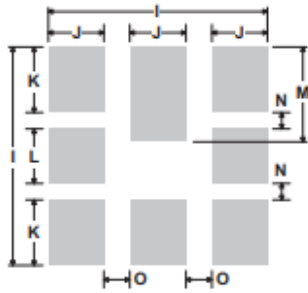
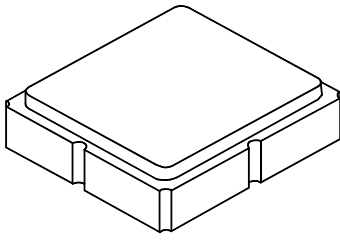




# Filter Return Loss Plot



## 8-Terminal Ceramic Surface-Mount Case 3.0 x 3.0 mm Nominal Footprint



PCB Footprint Top View

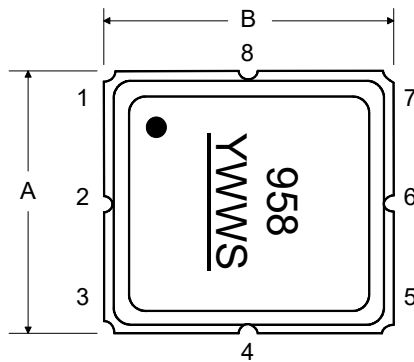
### Case and PCB Footprint Dimensions

Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	2.87	3.00	3.13	0.113	0.118	0.123
B	2.87	3.00	3.13	0.113	0.118	0.123
C	-	-	1.10	-	-	0.043
D	0.79	0.92	1.05	0.031	0.036	0.041
E	0.62	0.75	0.88	0.024	0.029	0.034
F	0.47	0.60	0.73	0.018	0.024	0.029
G	0.47	0.60	0.73	0.018	0.024	0.029
H	1.07	1.20	1.33	0.042	0.047	0.052
I		3.19			0.126	
J		0.81			0.032	
K		0.96			0.038	
L		0.81			0.032	
M		1.39			0.055	
N		0.23			0.009	
O		0.38			0.015	

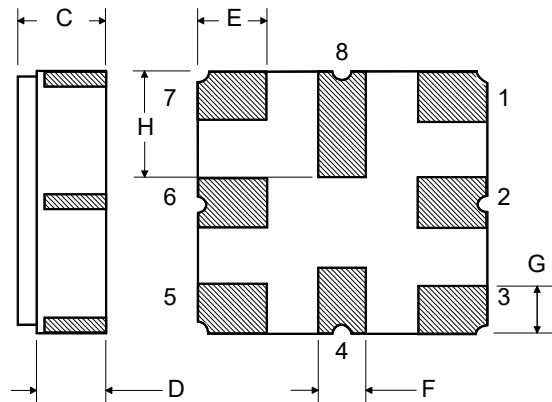
### Case Materials

Materials	
Solder Pad Plating	0.3 to 1.0 $\mu\text{m}$ Gold over 1.27 to 8.89 $\mu\text{m}$ Nickel
Lid Plating	2.0 to 3.0 $\mu\text{m}$ Nickel
Body	$\text{Al}_2\text{O}_3$ Ceramic

TOP VIEW



BOTTOM VIEW





## 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.

