

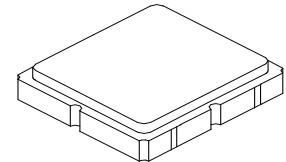


**THE DATASHEET OF  
SF2248E-1**



**SF2248E-1**

**314.45 MHz  
SAW Filter**



**SM3030-6**

- **Low-loss RF Filter for 315 MHz Applications**
- **No Matching Required for Operation in 50 Ω Environment**
- **Complies with Directive 2002/95/EC (RoHS)**
- **Moisture Sensitivity Level: 1**
- **AEC-Q200 Qualified**

**Absolute Maximum Ratings**

Rating	Value	Units
Input Power Level	10	dBm
DC Voltage on any Non-ground Terminal	3	V
Operating Temperature Range	-30 to +70	°C
Storage Temperature Range in Tape and Reel	-40 to +85	°C
Maximum Soldering Profile, 5 Cycles/10 seconds Maximum	265	°C

**Electrical Characteristics**

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	$f_C$			314.45		MHz
3 dB Bandwidth			1.3	5		MHz
Insertion Loss, 313.8 to 315.1 MHz	$IL_{MAX}$			1.52	2.50	dB
Amplitude Ripple, 313.8 to 315.1 MHz				0.4	1.2	dB <sub>P-P</sub>
VSWR				1.4:1	1.6:1	
Attenuation Referenced to $IL_{MAX}$ :						
270.0 to 286.0 MHz			55	65		dB
293.0 to 293.9 MHz			53	60		
304.0 to 304.6 MHz			48	60		
325.4 to 326.0 MHz			24	30		
336.1 to 337.0 MHz			36	52		
357.5 to 358.7 MHz			50	60		
940.0 to 1578.0 MHz			40			
Source Impedance	$Z_S$			50		Ω
Load Impedance	$Z_L$			50		Ω

Case Style	SM3030-6 3.0 x 3.0 mm Nominal Footprint		
Lid Symbolization, Y=year, WW=week, S=shift, Dot=pin 1 indicator	A86, <u>YWWS</u>		
Standard Reel Quantity	Reel Size 7 Inch	500 Pieces/Reel	
	Reel Size 13 Inch	3000 Pieces/Reel	

**Electrical Connections**

Connection	Terminals
Input	2
Output	5
Case Ground	All others

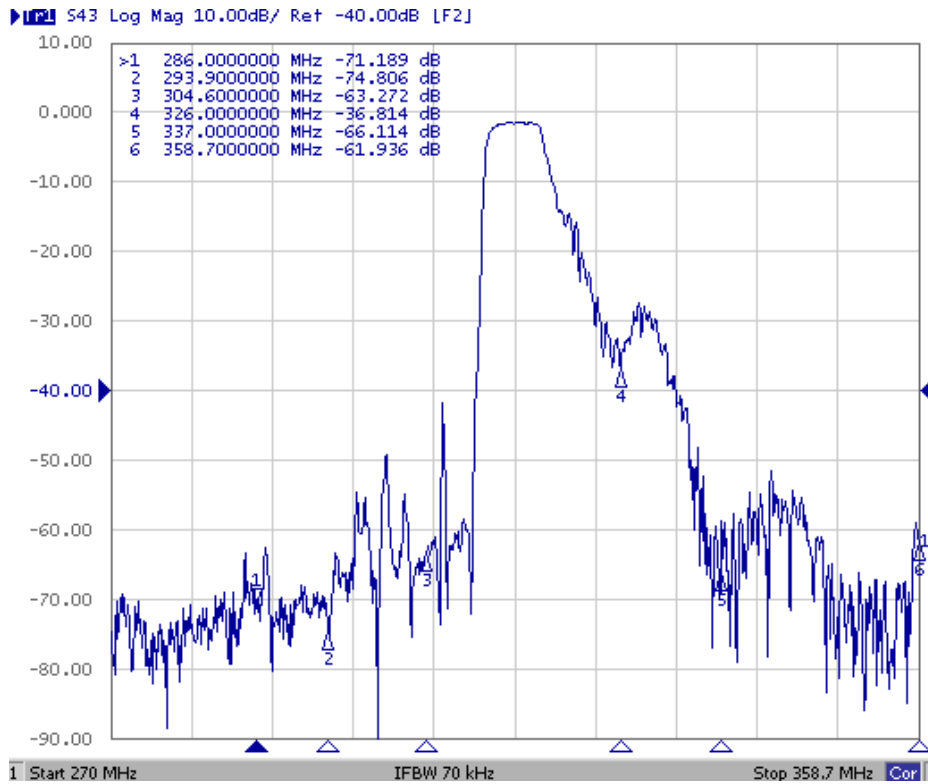


**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

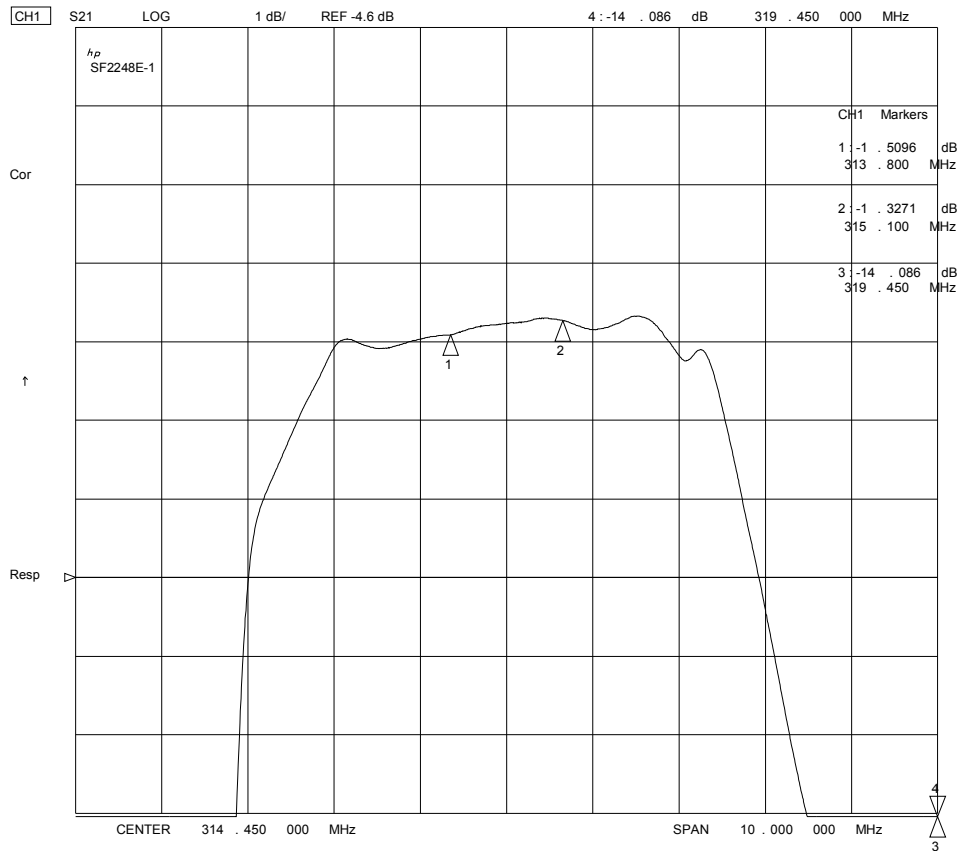
**NOTES:**

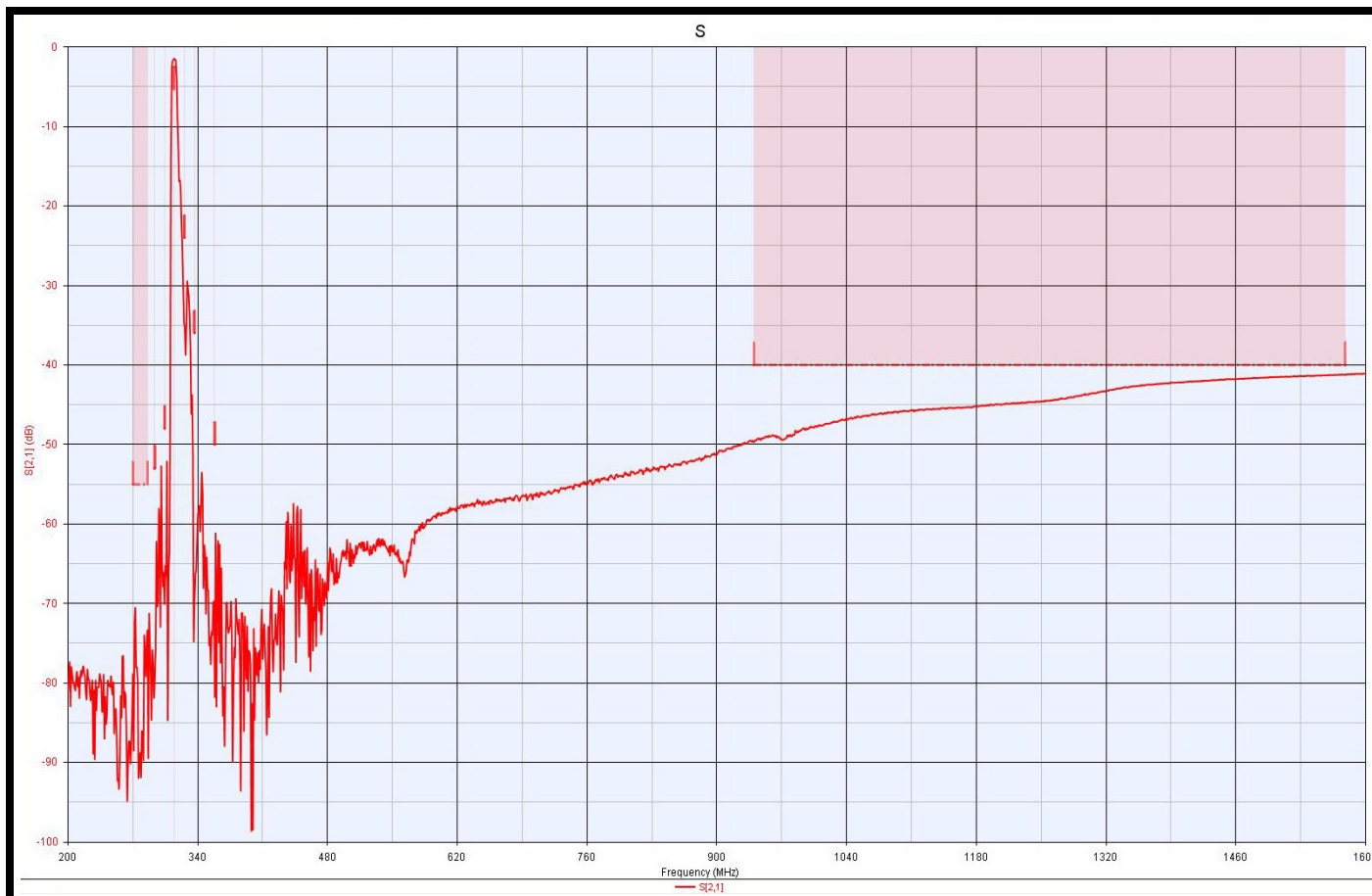
1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

# Amplitude Response Plots



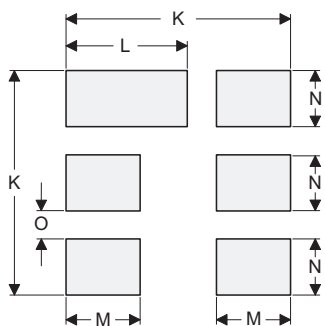
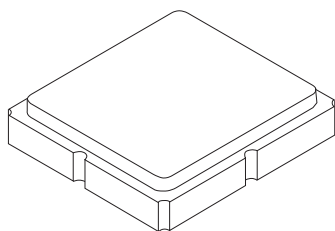
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# SM3030-6 Case

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



PCB Footprint Top View

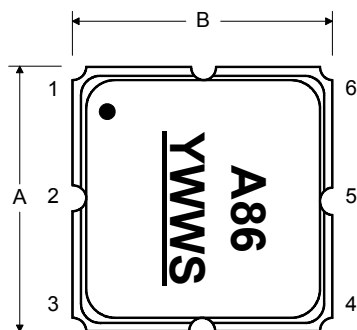
### Case and PCB Footprint Dimensions

Dimension	mm			Inches		
	Min	Nom	Max	Min	Nom	Max
A	2.87	3.00	3.13	0.113	0.118	0.123
B	2.87	3.00	3.13	0.113	0.118	0.123
C	1.12	1.25	1.30	0.044	0.049	0.051
D	0.77	0.90	1.03	0.030	0.035	0.040
E	2.67	2.80	2.93	0.105	0.110	0.115
F	1.47	1.60	1.73	0.058	0.063	0.068
G	0.72	0.85	0.98	0.028	0.033	0.038
H	1.37	1.50	1.63	0.054	0.059	0.064
I	0.47	0.60	0.73	0.019	0.024	0.029
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	

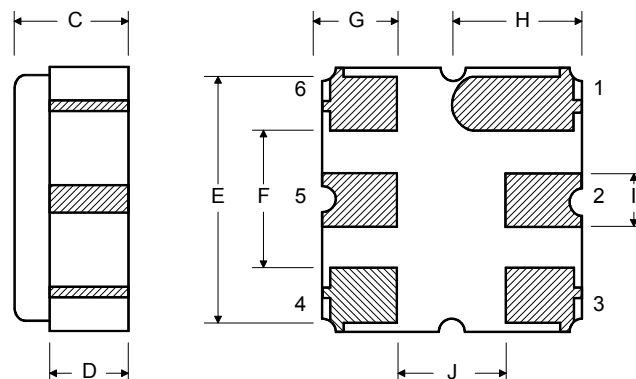
### Case Materials

Materials	
Solder Pad Plating	0.3 to 1.0 $\mu\text{m}$ 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

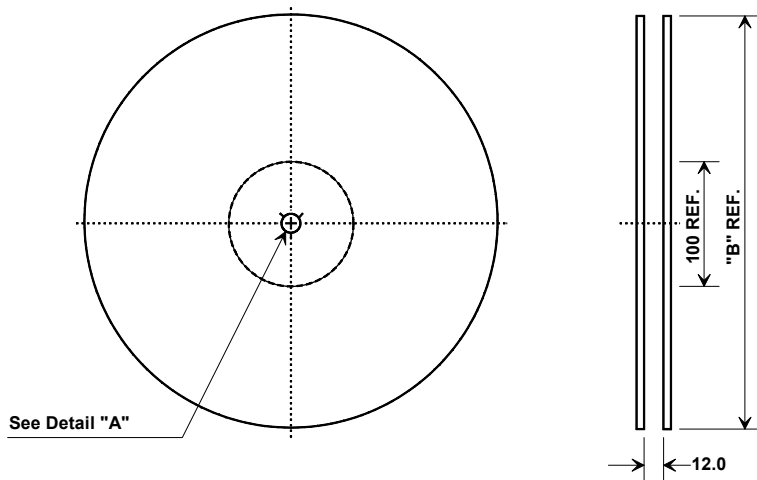


### Bottom View

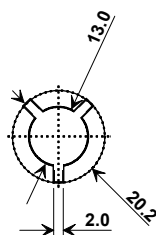


## Tape and Reel Specifications

Tape and Reel Standard per ANSI/EIA-481

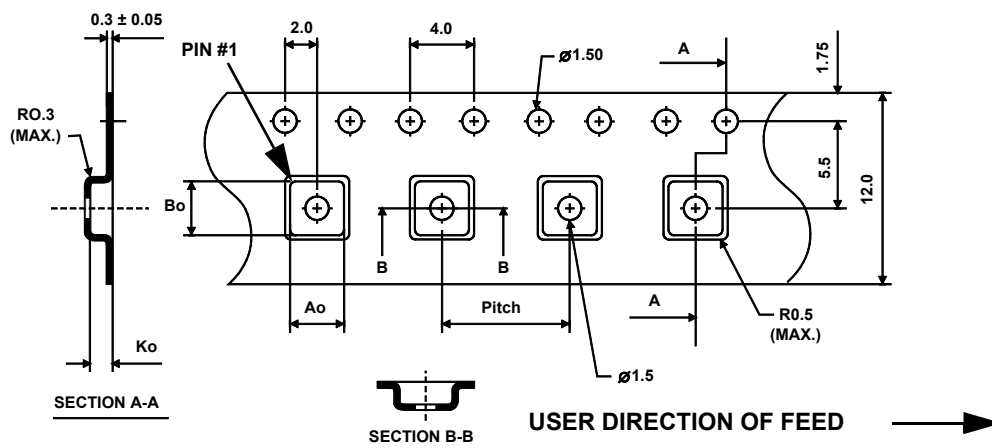


"B" Nominal Size		Quantity Per Reel
Inches	millimeters	
7	178	500
13	330	3000



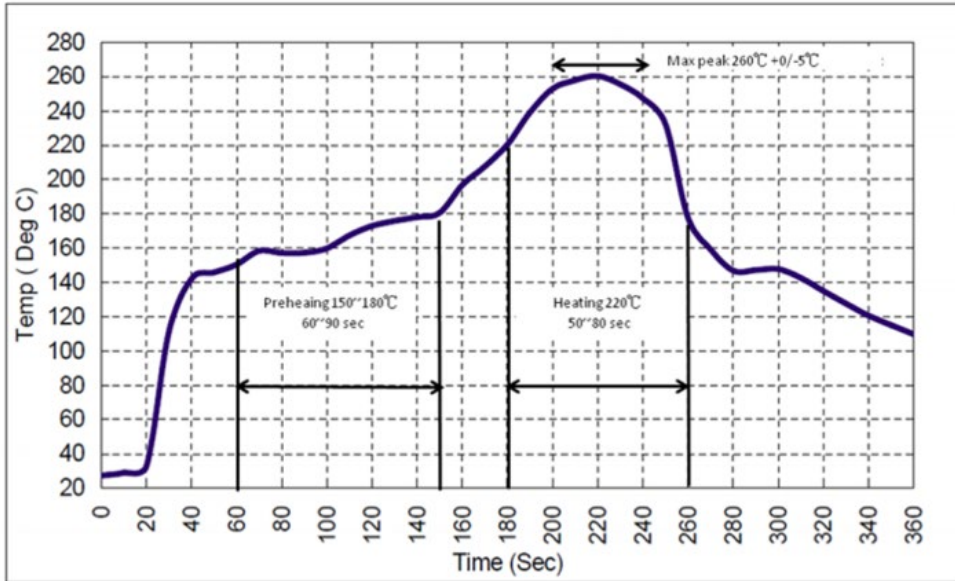
### COMPONENT ORIENTATION and DIMENSIONS

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 150~180°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.



## Looking for pricing, stock, or lifecycle information?

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