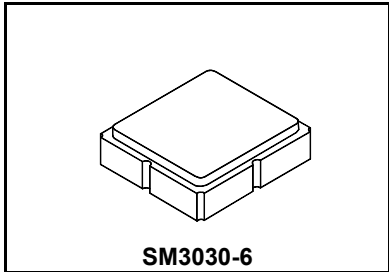


- Low Insertion Loss L-Band SAW Filter
- 3.0 X 3.0 mm Surface-Mount Case
- Complies with Directive 2002/95/EC (RoHS)
- Moisture Sensitivity Level: 1
- AEC-Q200 Qualified

RoHS  
Compliant

SF2036E

1880 MHz  
SAW Filter



**Absolute Maximum Ratings**

Rating	Value	Units
Maximum Incident Power in Passband	+10	dBm
DC Voltage on any Non-ground Terminal	5	V
Operable Temperature Range	-45 to +125	°C
Specification Temperature Range	-30 to +85	°C
Storage Temperature Range in Tape and Reel	-40 to +85	°C
Maximum Soldering Profile, 5 Cycles Maximum	265 °C for 10 s	

**Electrical Characteristics**

Characteristic	Sym	Notes	Min	Typ	Max	Units
Center Frequency	$f_C$			1880		MHz
Insertion Loss, 1850 to 1910 MHz	IL			2.45	4.0	dB
Amplitude Ripple, 1850 to 1910 MHz				1.2	2.5	dB <sub>p-p</sub>
Attenuation Referenced to 0 dB:						
DC to 1660 MHz			20	32		dB
1660 to 1721 MHz			30	35		dB
1721 to 1800 MHz			20	37		dB
1930 to 1990 MHz			7	19		dB
2000 to 2040 MHz			25	37		dB
2040 to 2480 MHz			31	38		dB
3700 to 3820 MHz			25	35		dB
Input/Output Return Loss, 1850 to 1910 MHz			7.4	13		dB
Source Impedance	$Z_S$			50		$\Omega$
Load Impedance	$Z_L$			50		$\Omega$
Case Style	SM3030-6 3 x 3 mm Nominal Footprint					
Lid Symbolization, Y=year, WW=week, S=shift	510, <u>YWWS</u>					

**Electrical Connections**

Connection	Terminals
Input	2
Output	5
Ground	All others

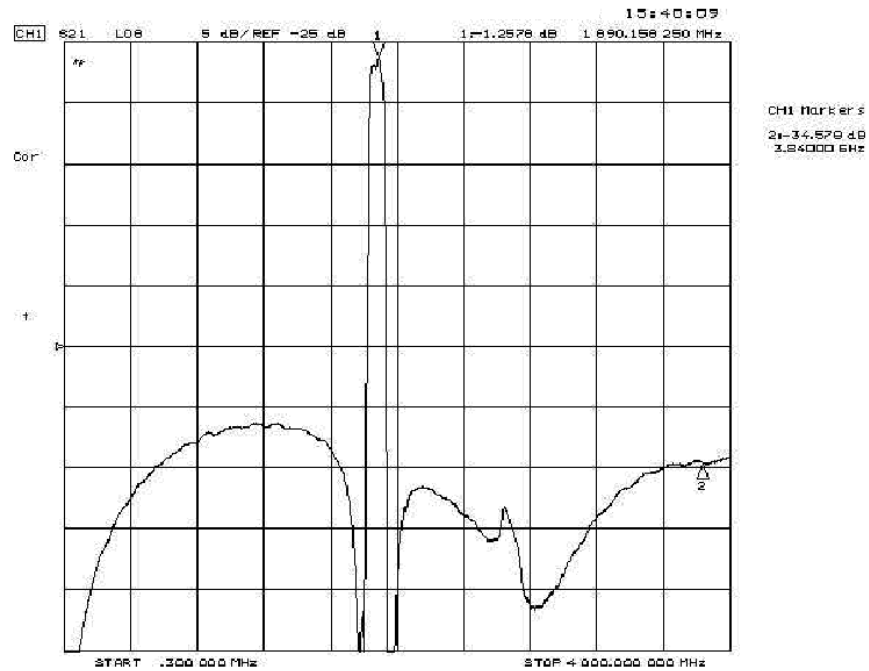
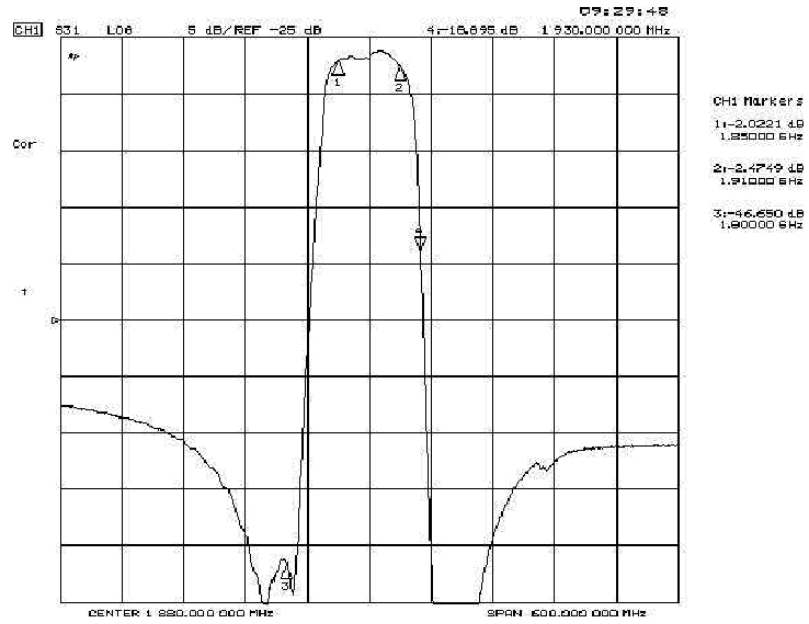


**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

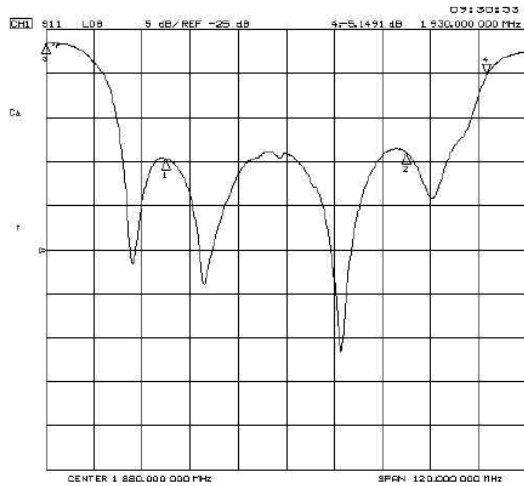
**NOTES:**

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.

**Frequency Characteristics :  
Transfer function**



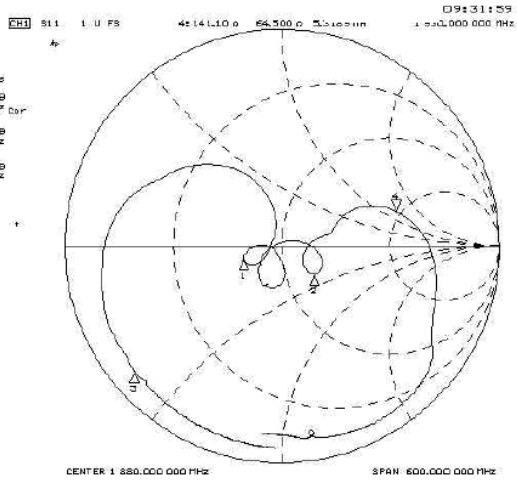
## S11



CH1 Markers  
 1-1.4639 dB  
 1.88000 GHz

2-1.3870 dB  
 1.91000 GHz

3-1.3889 dB  
 1.92000 GHz

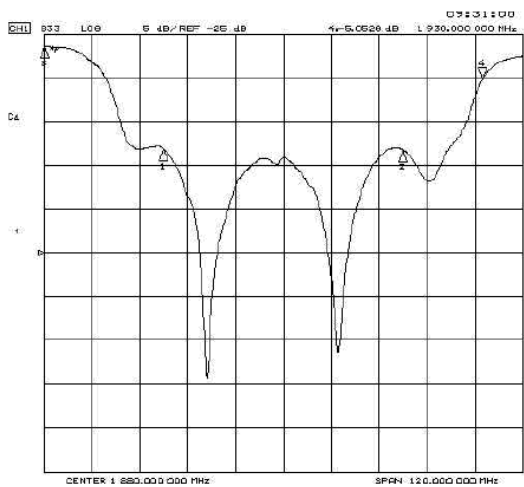


CH1 Markers  
 1-134.939 a  
 -4.3281 a  
 1.88000 GHz

2-65.307 a  
 -17.477 a  
 1.91000 GHz

3-13.2109 a  
 -18.410 a  
 1.92000 GHz

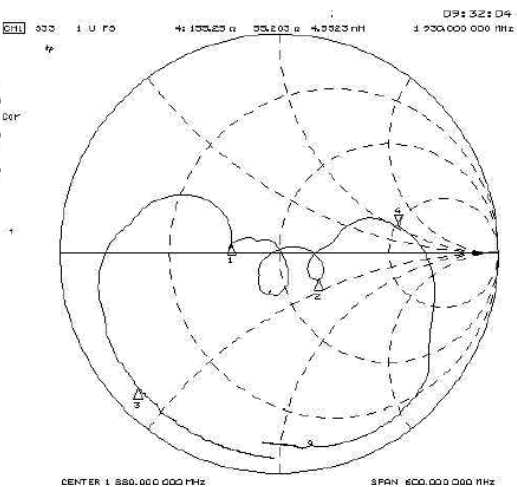
## S22



CH1 Markers  
 1-13.186 dB  
 1.88000 GHz

2-13.232 dB  
 1.91000 GHz

3-13.764 dB  
 1.92000 GHz



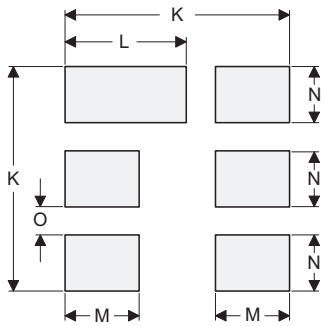
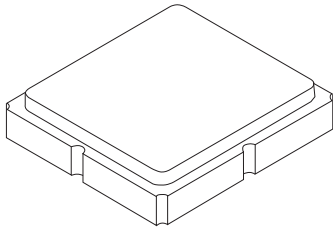
CH1 Markers  
 1-132.140 a  
 2.9961 a  
 1.88000 GHz

2-65.670 a  
 -17.388 a  
 1.91000 GHz

3-13.3530 a  
 -20.100 a  
 1.92000 GHz

# SM3030-6 Case

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



PCB Footprint Top View

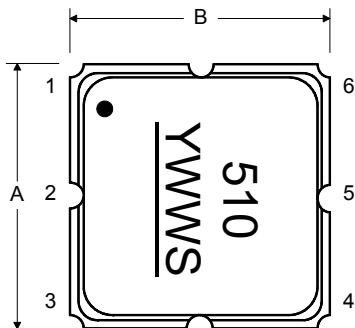
### Case and PCB Footprint Dimensions

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	1.38	0.044	0.049	0.054
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	

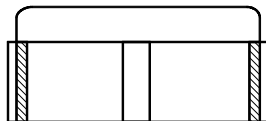
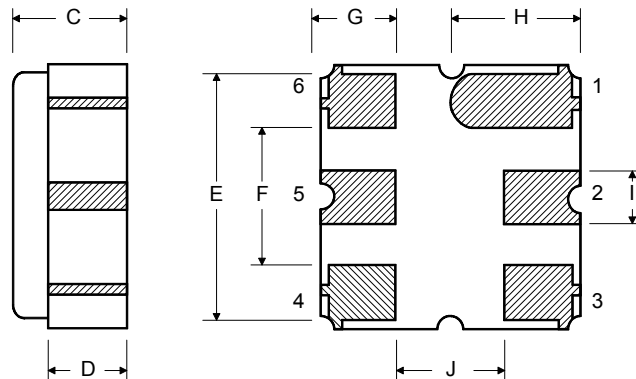
### Case Materials

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

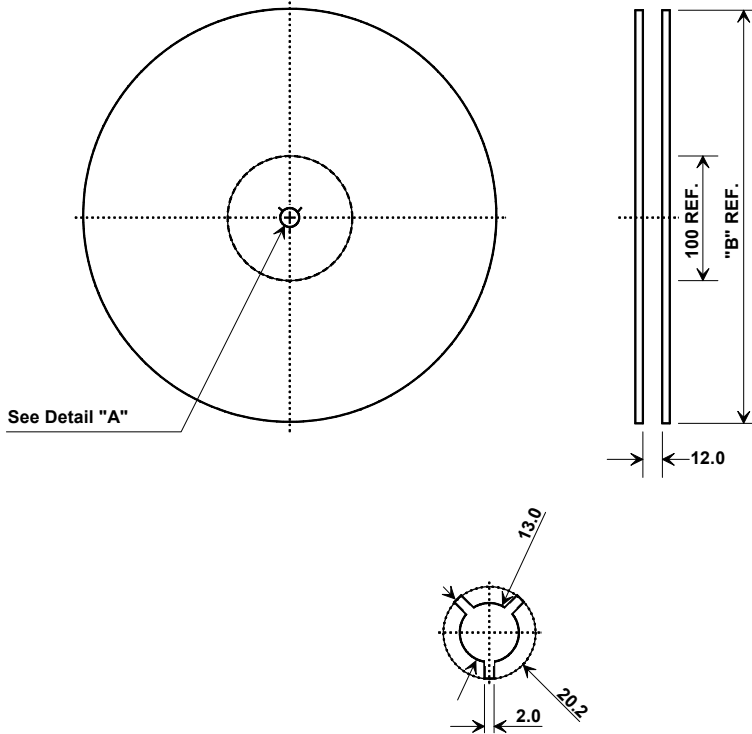


Bottom View



## Tape and Reel Specifications

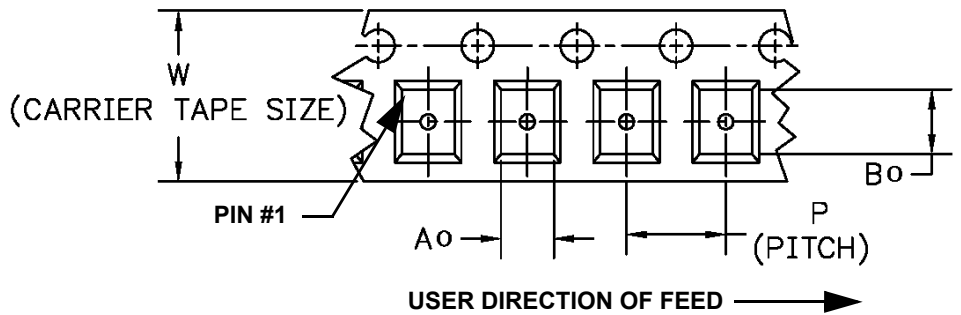
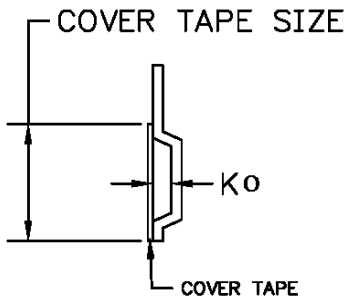
Tape and Reel Standard per ANSI/EIA-481



"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	1.4 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.

