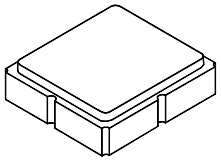
AEC-Q200
This component was always RoHS compliant from the first date of manufacture.

# SF2036E

# 1880 MHz SAW Filter

- ***Low Insertion Loss L-Band SAW Filter***
- ***3.0 X 3.0 mm Surface-Mount Case***
- ***Complies with Directive 2002/95/EC (RoHS)***



SM3030-6

### 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 | $dB_{P-P}$ |
| 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 | | Ω |
| Load Impedance | $Z_L$ | | | 50 | | Ω |
| Case Style | SM3030-6 3 x 3 mm Nominal Footprint | | | | | |
| Lid Symbolization, Y=year, WW=week, S=shift) | 510, YWWS | | | | | |

### Electrical Connections

| Connection | Terminals |
|---|---|
| Input | 2 |
| Output | 5 |
| Ground | All others |

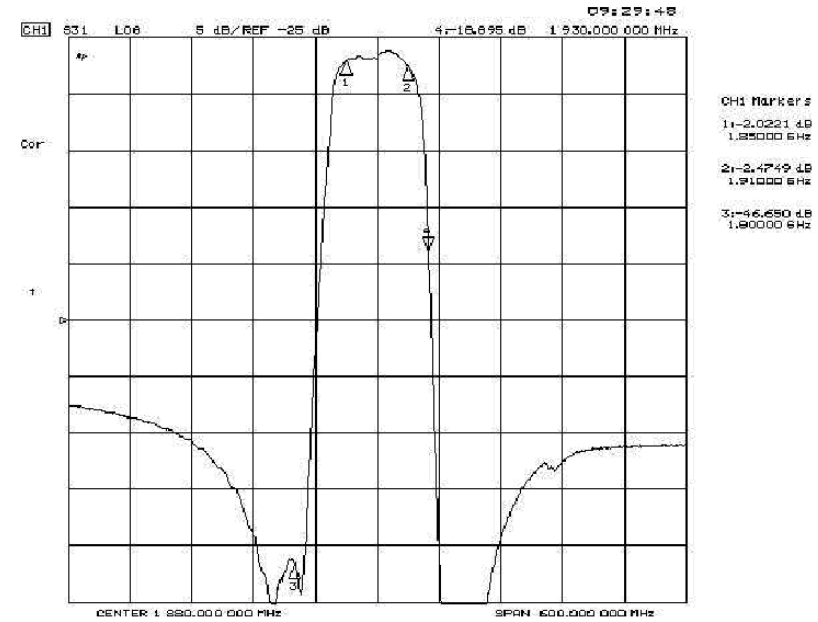
**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

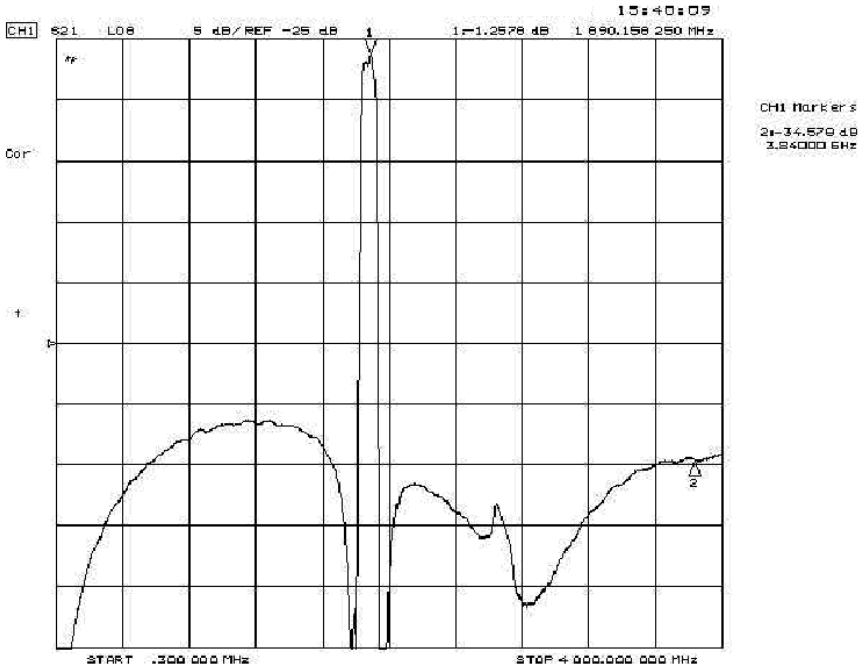
**NOTES:**

1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.

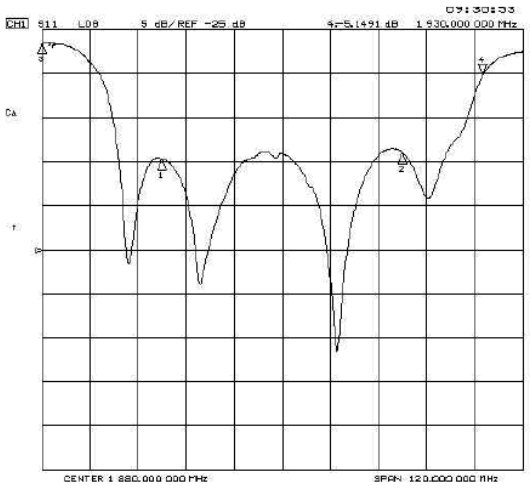
**Frequency Characteristics :**

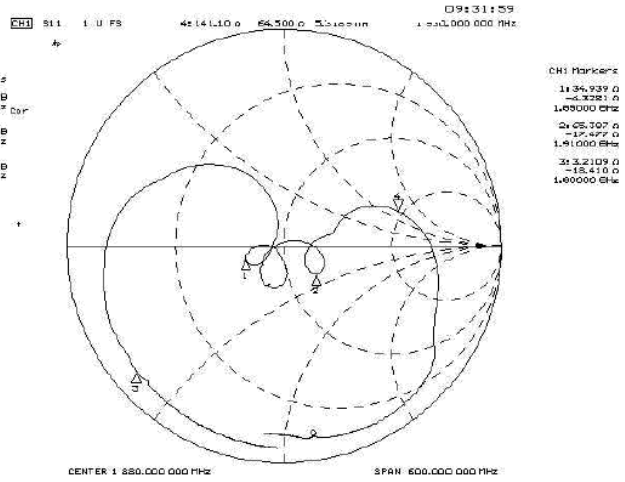
**Transfer function**



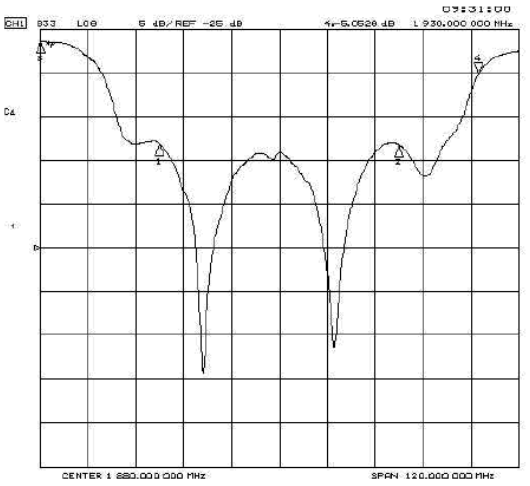



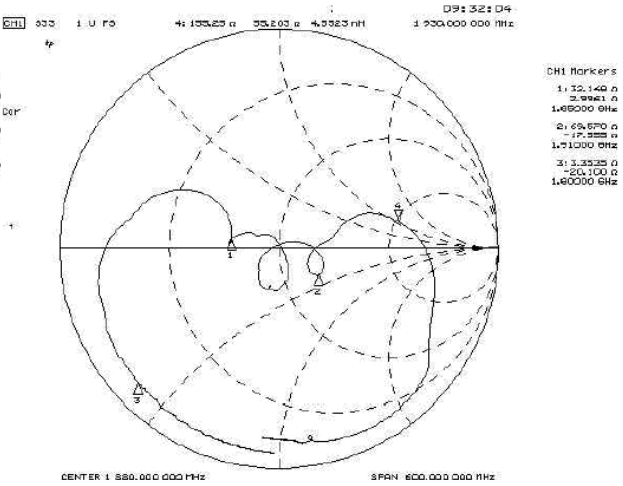
## S11



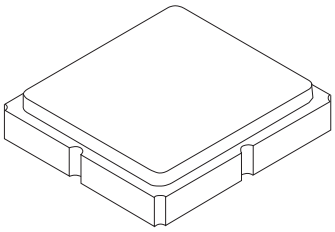

## S22

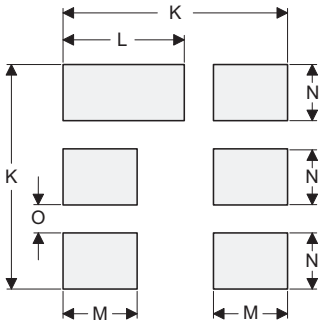


# SM3030-6 Case

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






**PCB Footprint Top View**

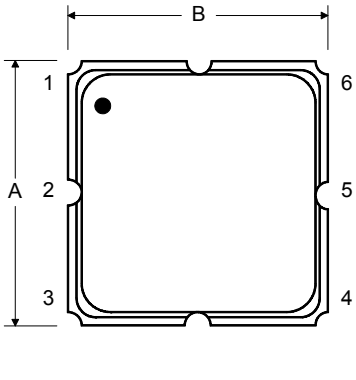
**Case and PCB Footprint Dimensions**

| 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 | |

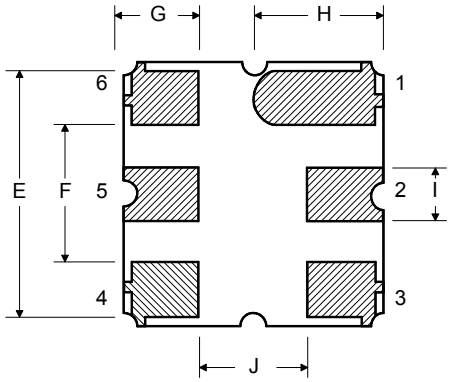
**Case Materials**

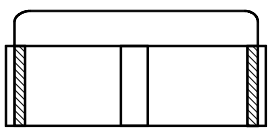
| Materials | |
|---|---|
| Solder Pad Plating | 0.3 to 1.0 µm Gold over 1.27 to 8.89 µm Nickel |
| Lid Plating | 2.0 to 3.0 µm Nickel |
| Body | $Al_2O_3$ Ceramic |
| Pb Free | |

**Top View**



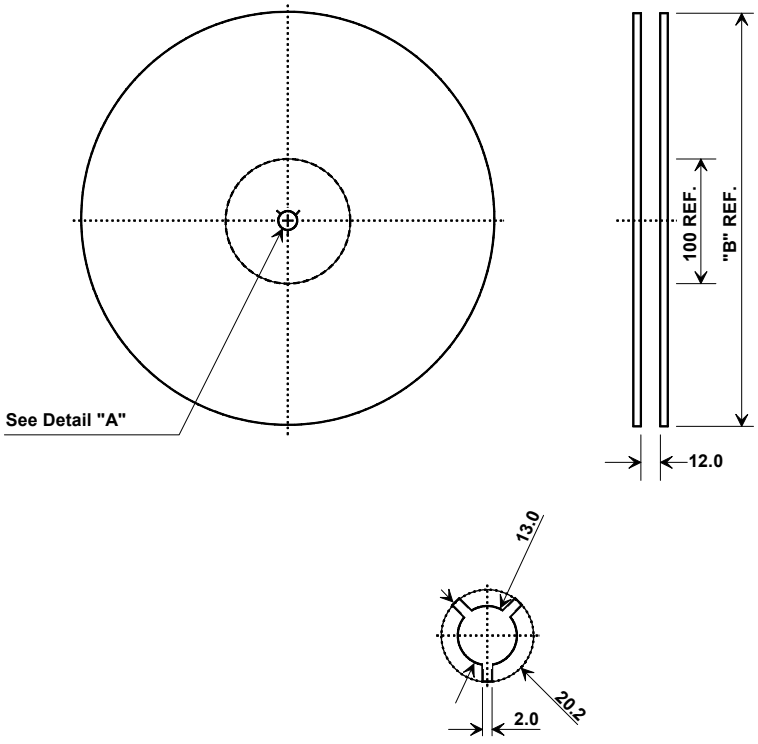

**Bottom View**



## Tape and Reel Specifications

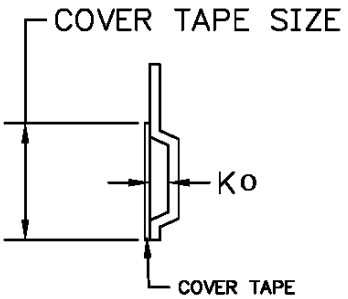
Tape and Reel Standard per ANSI/EIA-481

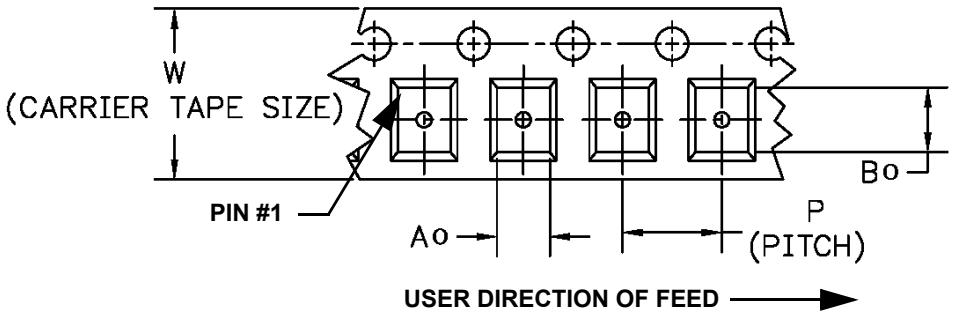



| "B" Nominal Size | | Quantity Per Reel |
|---|---|---|
| Inches | millimeters | |
| 7 | 178 | 500 |
| 13 | 330 | 3000 |

**COMPONENT ORIENTATION and DIMENSIONS**

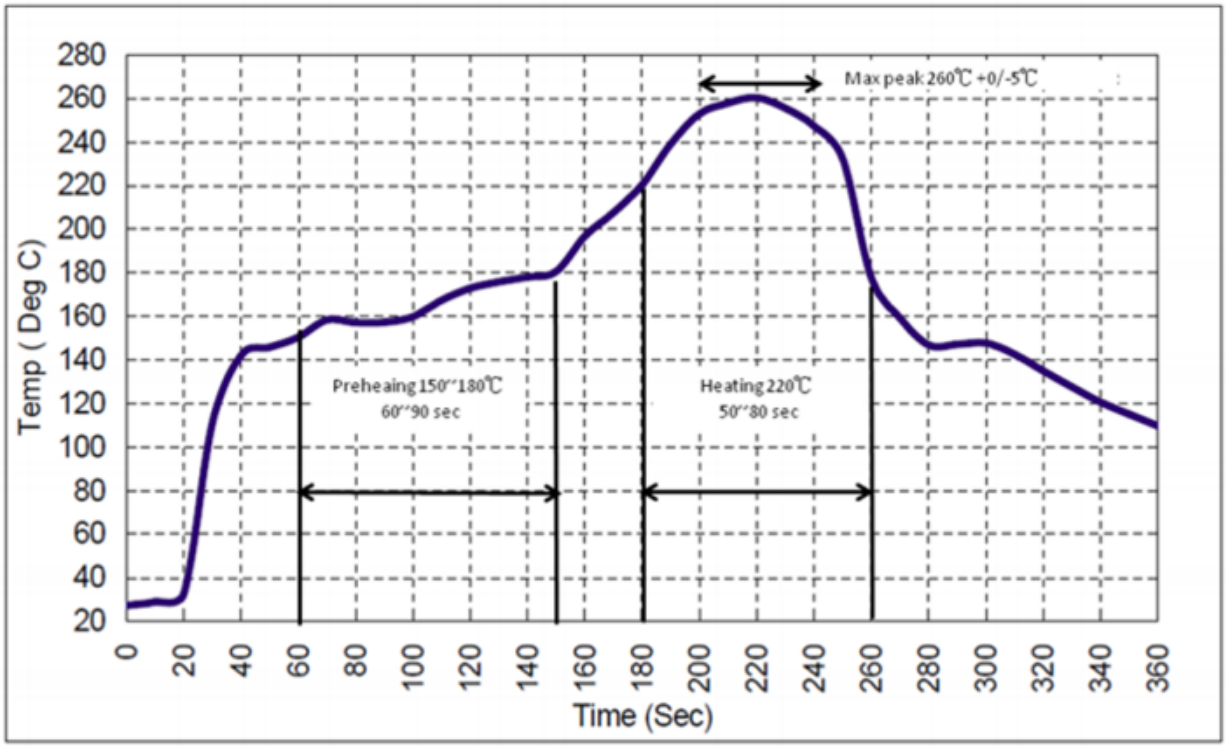
| Carrier Tape Dimensions | |
|---|---|
| Ao | 3.35 mm |
| Bo | 3.35 mm |
| Ko | 1.4 mm |
| Pitch | 8.0 mm |
| W | 12.0 mm |



## 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.



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