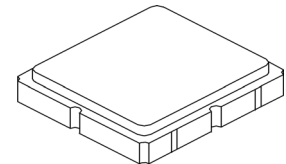


SF2186E

**1268.52 MHz
SAW Filter**



SM3030-6

- **Surface Mount 3.0 x 3.0 mm Package**
- **Complies with Directive 2002/95/EC (RoHS)**
- **Moisture Sensitivity Level: 1**

Absolute Maximum Ratings

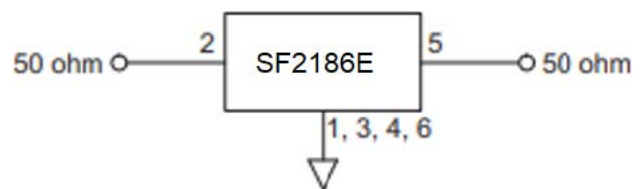
| Rating | Value | Units |
|--|----------------|-------|
| Input Power Level | 10 | dBm |
| DC Voltage on any Non-ground Terminal | 3 | V |
| Operating Temperature Range | -40 to +85 | °C |
| Storage Temperature Range in Tape and Reel | -40 to +85 | °C |
| Suitable for Lead-free Soldering - Maximum Soldering Profile | 260°C for 30 s | |

Electrical Characteristics

| Characteristic | Sym | Notes | Min | Typ | Max | Units |
|--|---|-------|-------|---------|-----|----------|
| Center Frequency | f_c | | | 1268.52 | | MHz |
| Insertion Loss, 1258.29 to 1278.75 MHz | IL | | | 1.7 | 3.2 | dB |
| Amplitude Ripple, 1258.29 to 1278.75 MHz | | | | 0.5 | 1.8 | |
| 2 dB Bandwidth | | | 20.46 | 38.3 | | MHz |
| Attenuation, Referenced from Minimum IL: | | | | | | dB |
| 1227.52 MHz | | | 39 | 45.5 | | |
| 1309.52 MHz | | | 50 | 67 | | |
| Input/Output VSWR, 1258.29 to 1278.75 MHz | | | | 1.3 | 2.1 | |
| Source Impedance | Z_s | | | 50 | | Ω |
| Load Impedance | Z_L | | | 50 | | |
| Case Style | SM3030-6 3.0 x 3.0 mm Nominal Footprint | | | | | |
| Lid Symbolization (Y=year, WW=week, S=shift) dot=pin 1 indicator | 874, YWWS | | | | | |

Electrical Connections

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

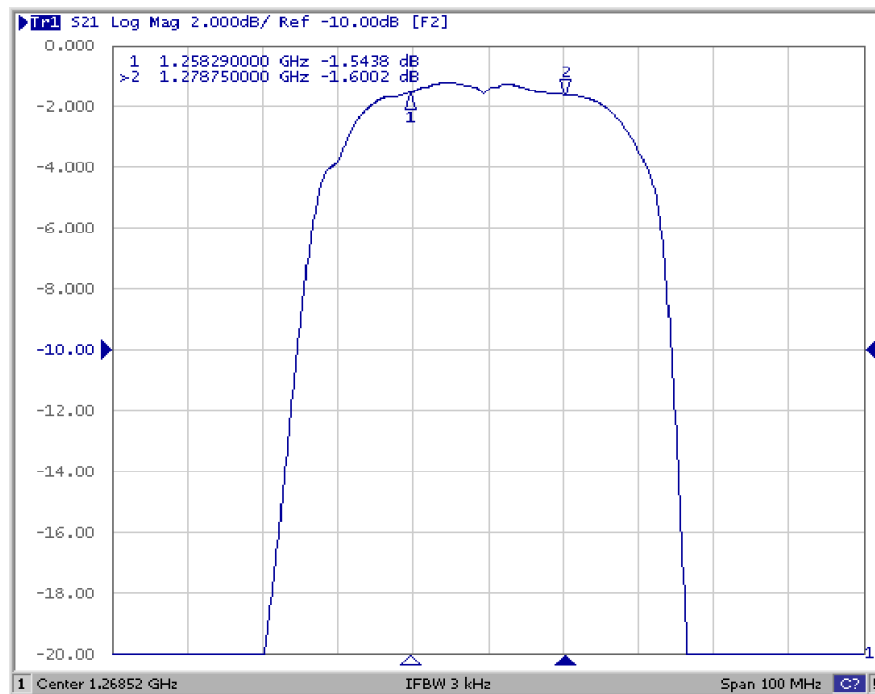


 **CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

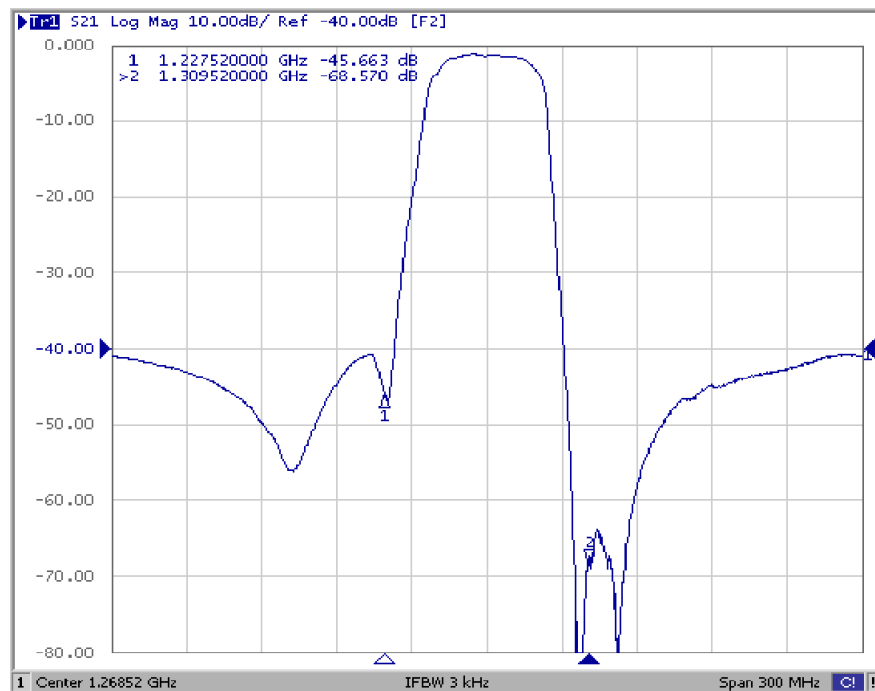
NOTES:

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.

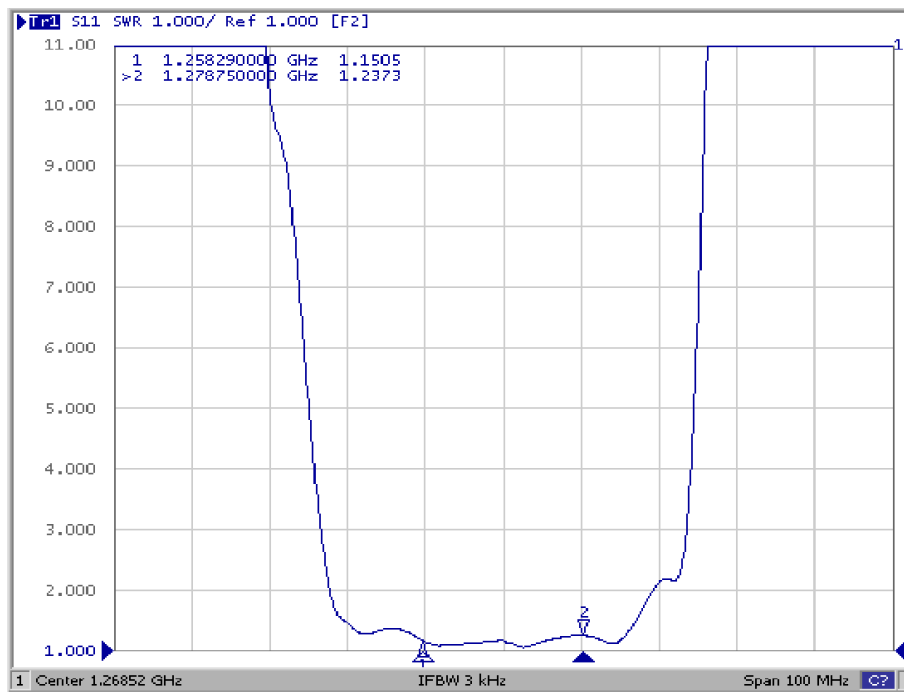
SF2186E Amplitude Response, 100 MHz Sweep



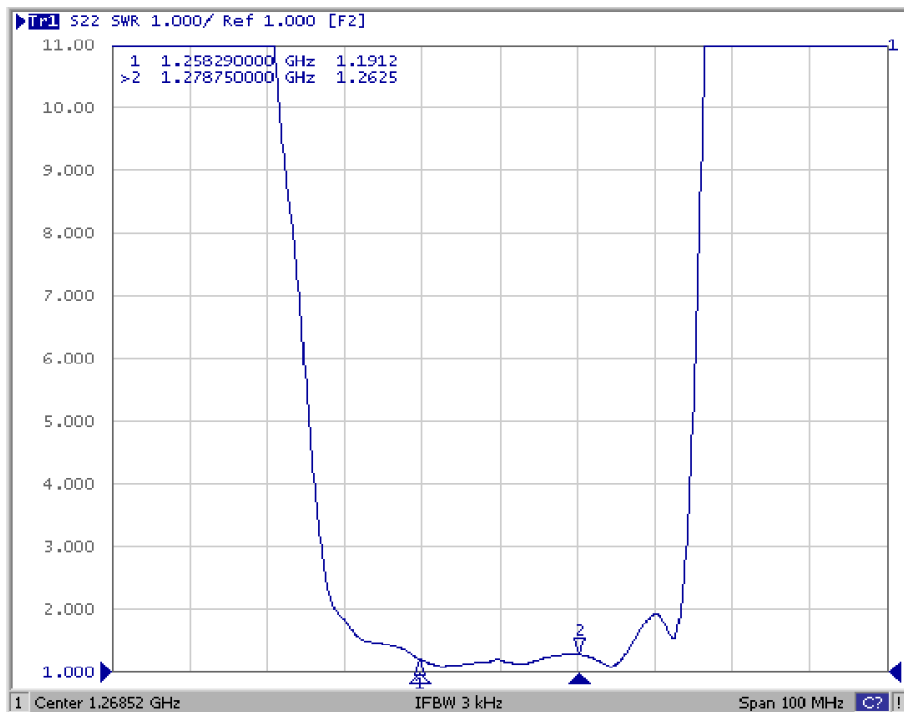
SF2186E Amplitude Response, 300 MHz Sweep



SF2186E Input VSWR, 100 MHz Sweep

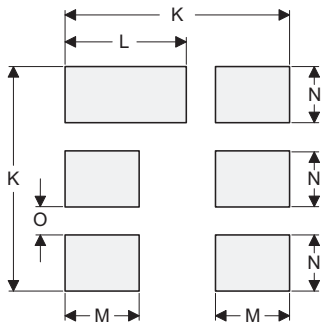
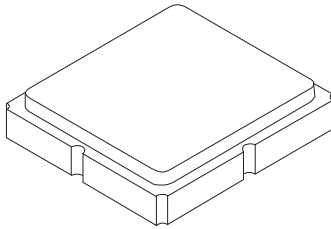


SF2186E Output VSWR, 100 MHz Sweep



SM3030-6 Case

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



PCB Footprint Top View

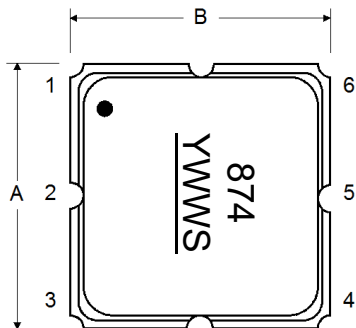
Case and PCB Footprint Dimensions

| 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 | |

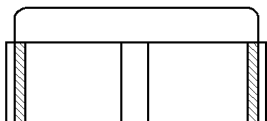
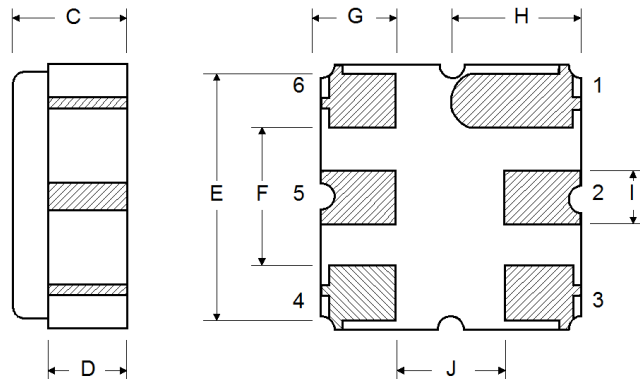
Case Materials

| 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 |

TOP VIEW

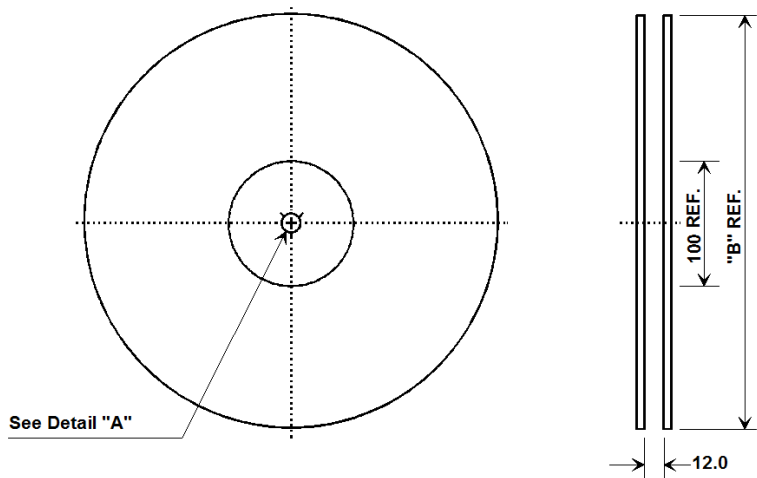


BOTTOM VIEW

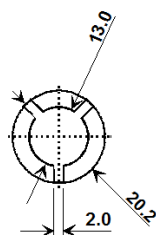


Tape and Reel Specifications

Tape and Reel Standard per ANSI/EIA-481

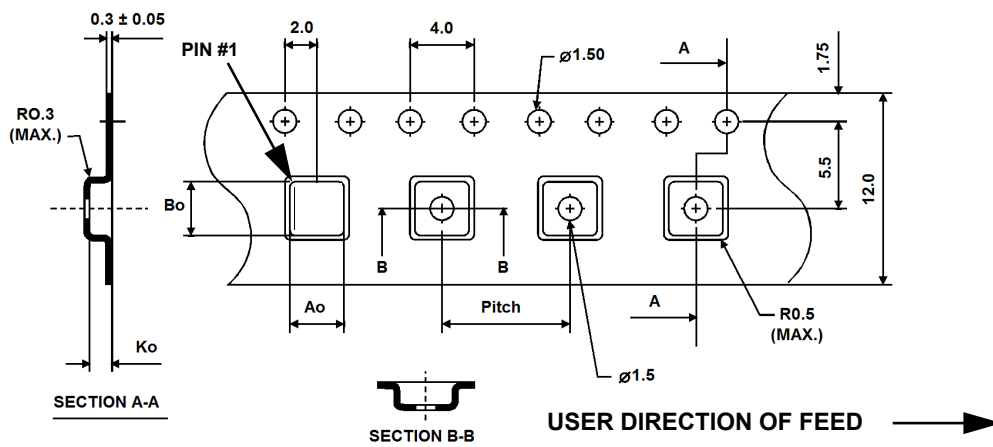


| "B" | | Quantity Per Reel |
|--------|-------------|-------------------|
| Inches | millimeters | |
| 7 | 178 | 500 |
| 13 | 330 | 3000 |



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.

