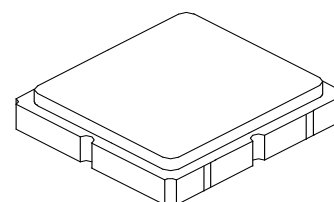


SF2253E

**2655 MHz
SAW Filter**



SM3030-6

- **Low-loss RF SAW Filter**
- **Surface Mount 3.0 x 3.0 x 1.3 mm Package**
- **Complies with Directive 2002/95/EC (RoHS)**
- **Moisture Sensitivity Level: 1**

Absolute Maximum Ratings

| Rating | Value | Units |
|---|------------|-------|
| Input Power Level | 15 | dBm |
| DC Voltage on any Non-ground Terminal | 12 | V |
| Operating Temperature Range | -40 to +85 | °C |
| Storage Temperature Range in Tape and Reel | -40 to +85 | °C |
| Solder Reflow Temperature, 10 seconds, 5 cycles maximum | 220 | °C |

Electrical Characteristics

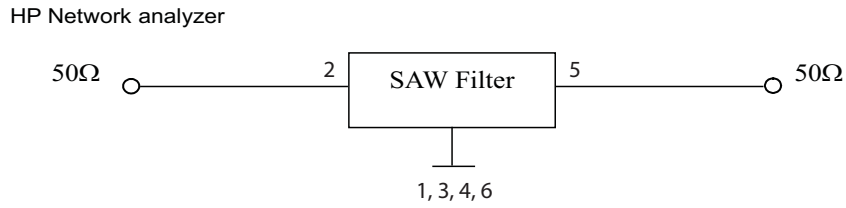
| Characteristic | Sym | Notes | Min | Typ | Max | Units |
|--|---|-------|-----|------|-----|-------------------|
| Center Frequency | F_C | | | 2655 | | MHz |
| Insertion Loss, 2620 to 2690 MHz | IL | | | 2.2 | 3.6 | dB |
| Amplitude Ripple, 2620 to 2690 MHz | | | | 0.7 | 2.2 | dB _{p-p} |
| Group Delay Ripple, 2620 to 2690 MHz | | | | 7 | 35 | ns |
| VSWR, 2620 to 2690 MHz | | | | 1.9 | 2.5 | |
| Attenuation Referenced to 0 dB: | | | | | | |
| 300 to 500 MHz | | | 20 | 36 | | dB |
| 500 to 2450 MHz | | | 22 | 30 | | |
| 2450 to 2550 MHz | | | 25 | 36 | | |
| 2745 to 3000 MHz | | | 15 | 37 | | |
| 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 | 995, <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:

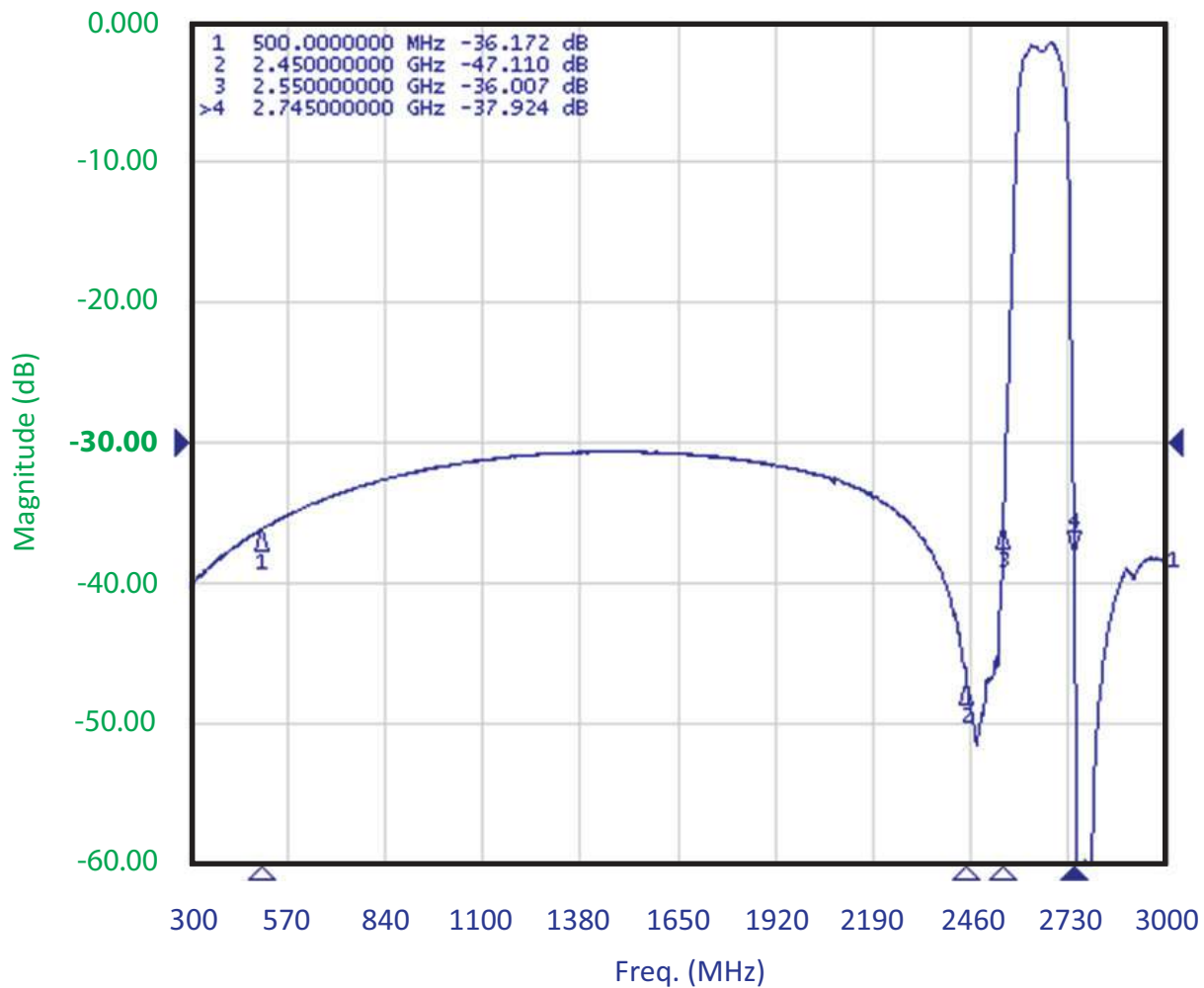
1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.
3. RoHS compliant from the first date of manufacture.

Filter Test Circuit

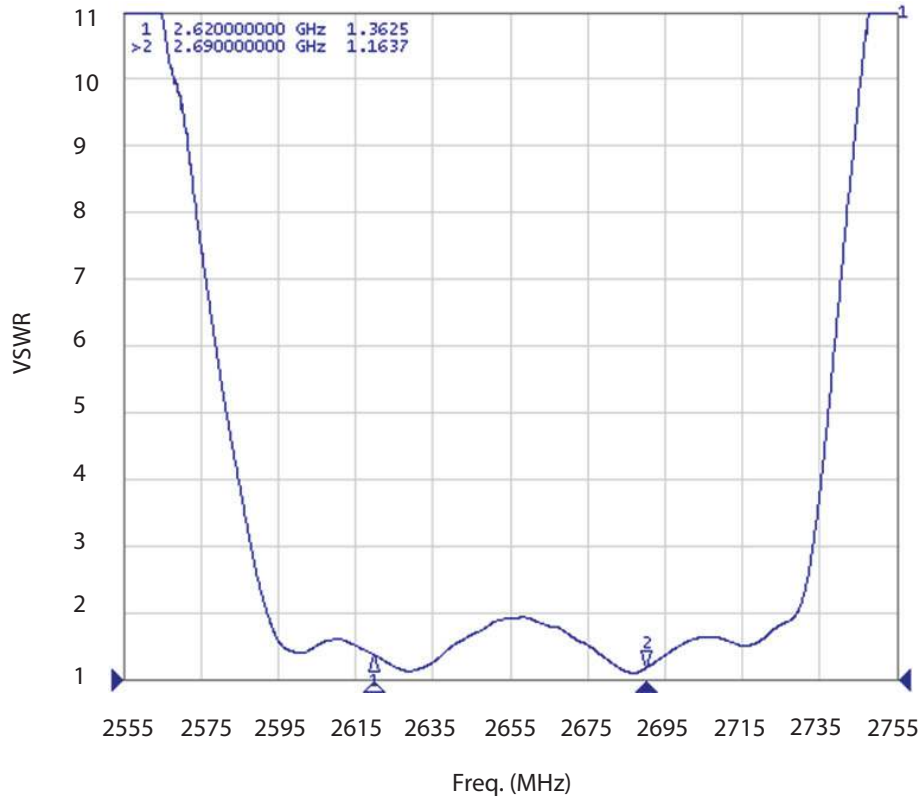


| Connection | Terminals |
|------------|------------|
| Input | 2 |
| Output | 5 |
| Ground | 1, 3, 4, 6 |

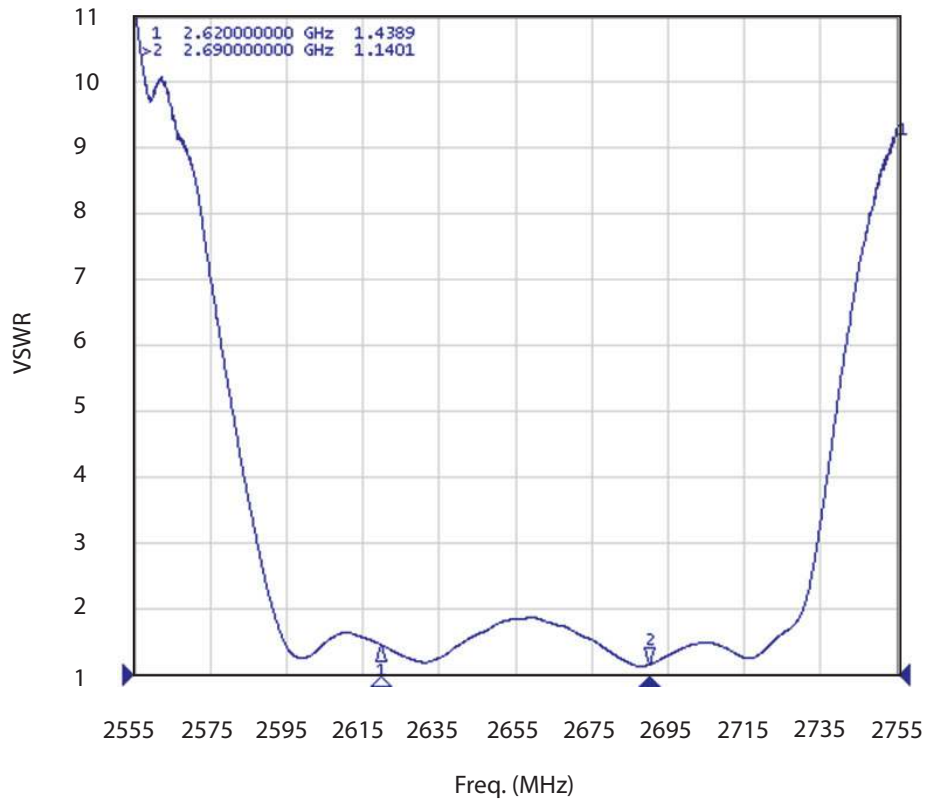
Frequency Response:



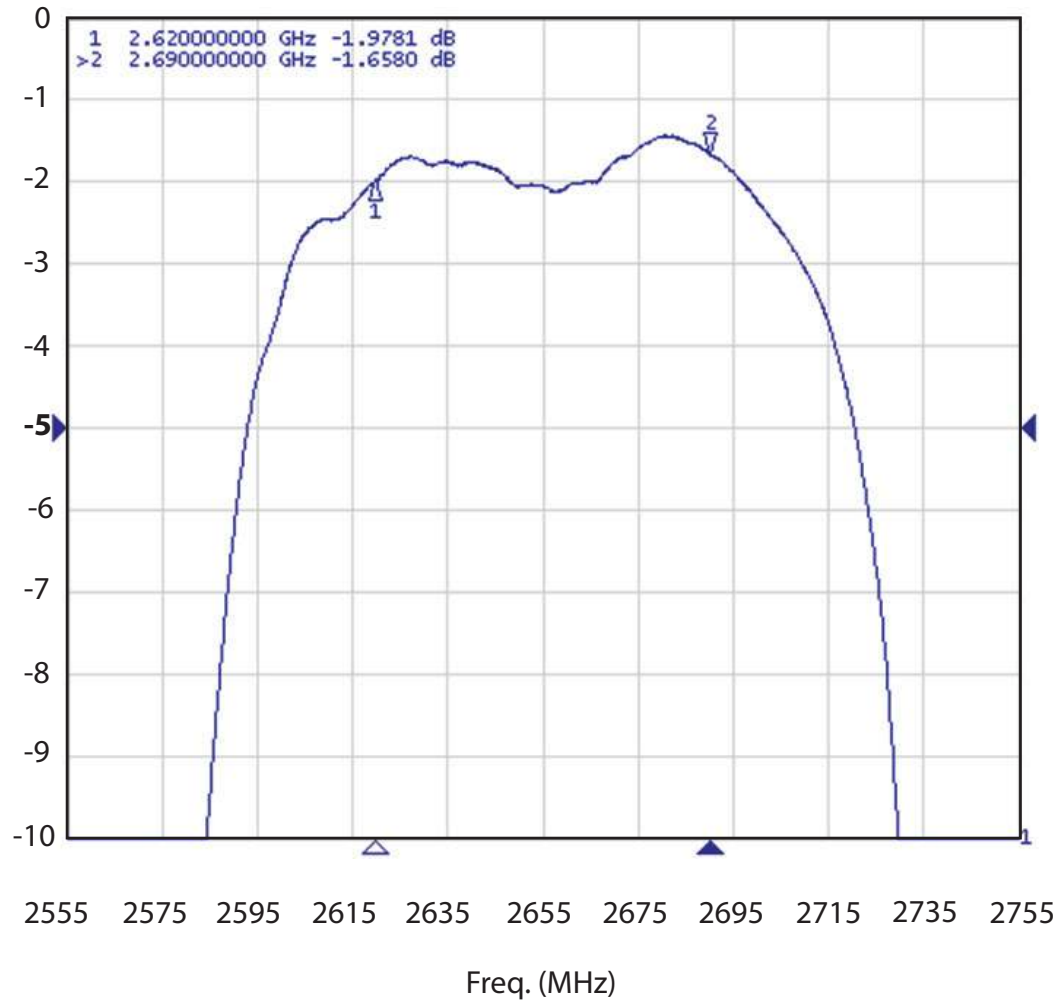
S11



S22

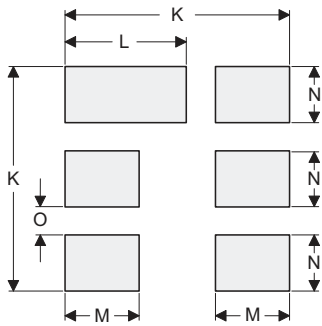
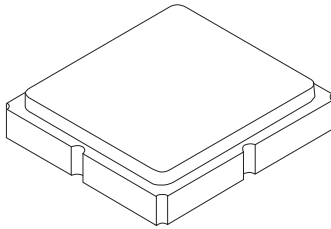


Pass Band Response



SM3030-6 Case

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



PCB Footprint Top View

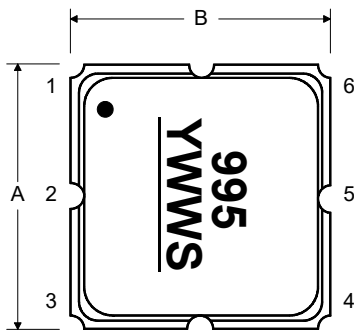
Case and PCB Footprint Dimensions

| 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 | 1.4 | 0.044 | 0.049 | 0.050 |
| D | 0.77 | 0.90 | 1.03 | 0.030 | 0.035 | 0.040 |
| E | 2.67 | 2.50 | 2.93 | 0.105 | 0.090 | 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 | |

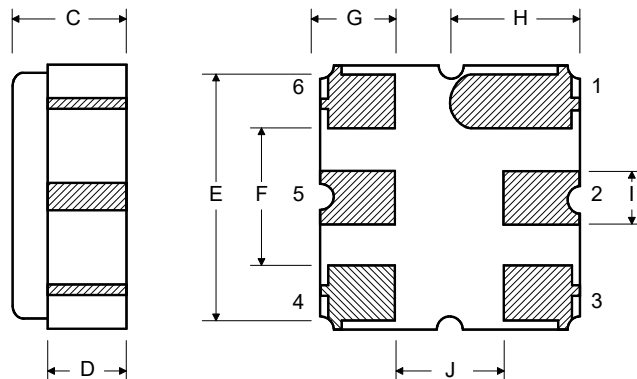
Case Materials

| Materials | |
|--------------------|--|
| Solder Pad Plating | 0.3 to 1.0 μ m Gold over 1.27 to 8.89 μ m Nickel |
| Lid Plating | 2.0 to 3.0 μ m Nickel |
| Body | Al ₂ O ₃ Ceramic |

TOP VIEW

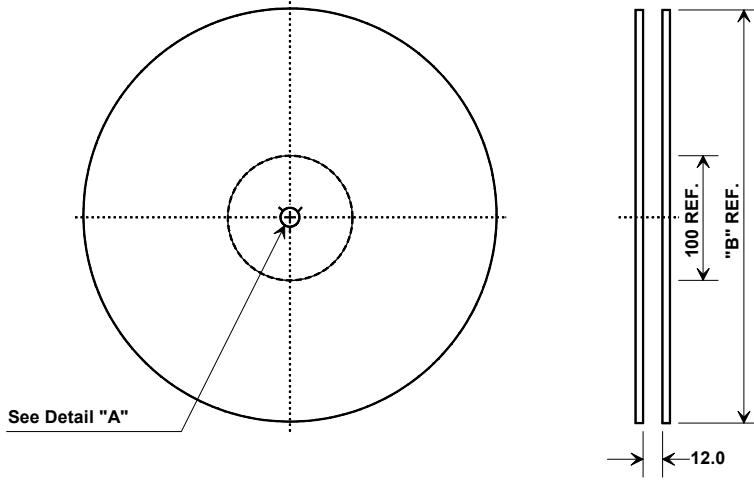


BOTTOM VIEW

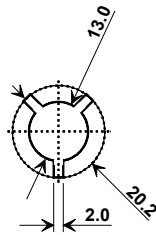


Tape and Reel Specifications

Tape and Reel Standard per ANSI/EIA481

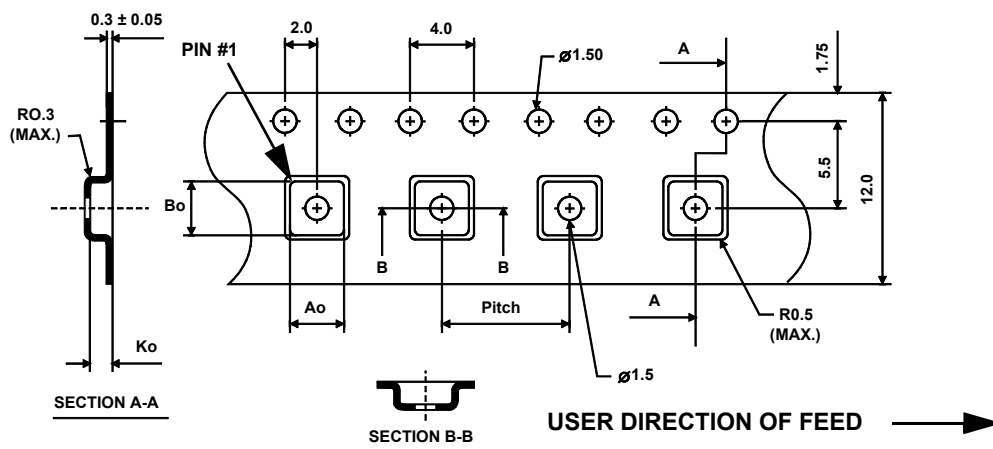


| "B" | | Quantity Per Reel |
|--------|-------------|-------------------|
| Inches | millimeters | |
| 7 | 178 | 500 |
| 13 | 330 | 3000 |



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° for 60~90 seconds.
2. Ascending time to preheating temperature 150° shall be 30 seconds min.
3. Heating shall be fixed at 220°C for 50~80 seconds and at 260°C peak (10 seconds.)
4. Time: 5 times maximum

