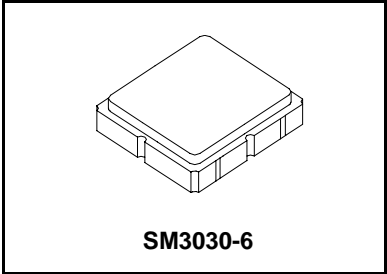




SF2053E

**915.00 MHz
SAW Filter**



- Low Loss Filter for 915 MHz Front End
- Complies with Directive 2002/95/EC (RoHS)



Absolute Maximum Ratings

| Rating | Value | Units |
|--|------------|-------|
| Input Power Level | 20 | dBm |
| DC Voltage on any Non-ground Terminal | 0 | V |
| Operating Temperature Range | -20 to +60 | °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 | | | 915 | | MHz |
| Insertion Loss, 908.75 to 921.25 MHz | IL_{MIN} | | | 3.0 | 5.0 | dB |
| Amplitude Variation, 910.25 to 921.25 MHz | | | | 1.0 | 1.5 | dB _{P-P} |
| Amplitude Variation, 908.75 to 921.25 MHz | | | | 1.0 | 3.1 | |
| Attenuation, Referenced to IL_{MIN} | | | | | | dB |
| 850 to 902 MHz | | | 18 | 31 | | |
| 928 to 940 MHz | | | 7.5 | 15 | | |
| 800 to 850 MHz | | | 35 | 48 | | |
| 940 to 1000 MHz | | | 33 | 41 | | |
| Temperature Coefficient of Frequency | TC_f | | | -42 | | ppm/K |
| 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 | 531, YWWS | | |
| 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 |

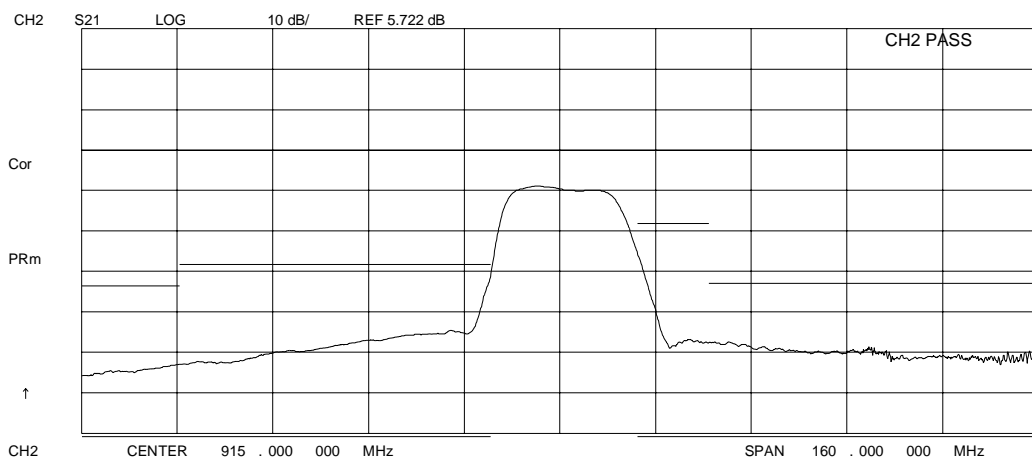
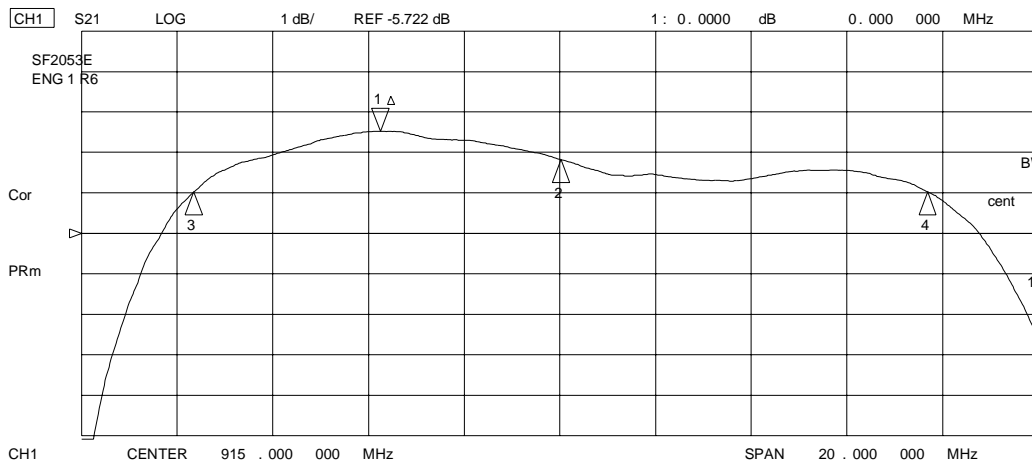


CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

Notes:

1. Unless noted otherwise, all specifications apply over the operating temperature range with filter soldered to the specified demonstration board with impedance matching to 50 Ω and measured with 50 Ω network analyzer.
2. Unless noted otherwise, all frequency specifications are referenced to the nominal center frequency, f_c .
3. The design, manufacturing process, and specifications of this filter are subject to change.
4. US and international patents may apply.
5. RFM, stylized RFM logo, and RF Monolithics, Inc. are registered trademarks of RF Monolithics, Inc.

29 Jun 2005 13:25:50



29 Jun 2005 13:17:42

CH1 S11 1 U FS

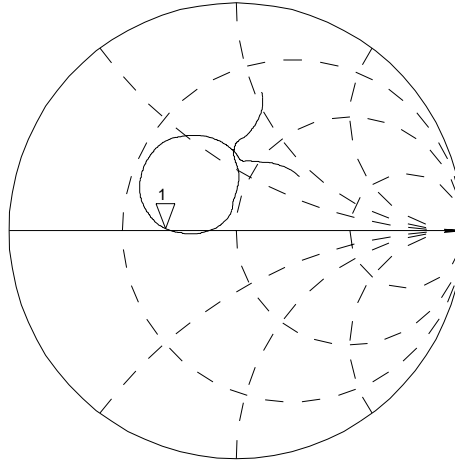
1: 26 . 243 Ω 0 . 5830 Ω 101 . 41 pF 915 . 000 000 MHz

SF2053E
ENG 1 R6

Cor

PRm

↑

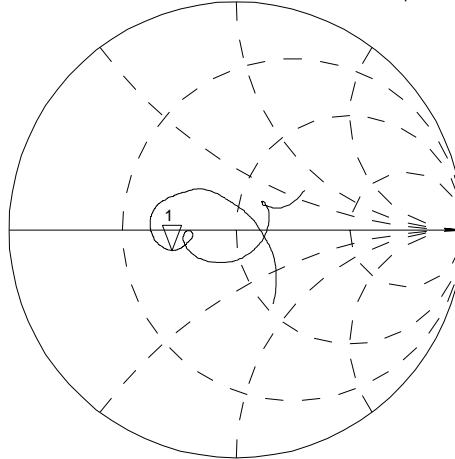


CH3 S22 1 U FS

1: 27 . 504 Ω -5 . 4668 Ω 31 . 818 pF 915 . 000 000 MHz

Cor

↑

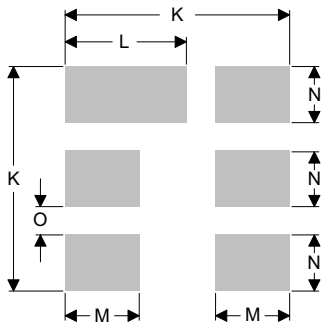


CENTER 915 . 000 000 MHz

SPAN 20 . 000 000 MHz

SM3030-6 Case

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



PCB Footprint Top View

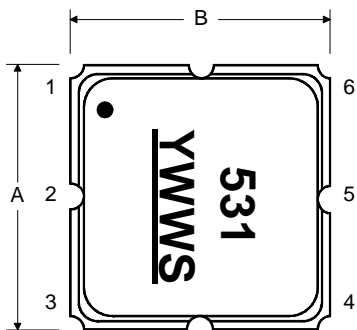
Case and PCB Footprint Dimensions

| 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 | |

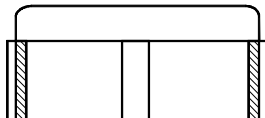
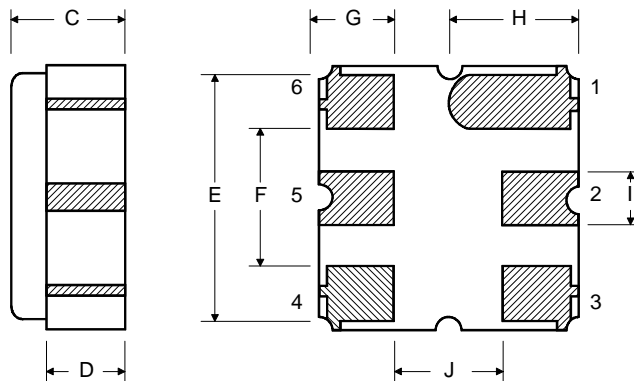
Case Materials

| 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 | |

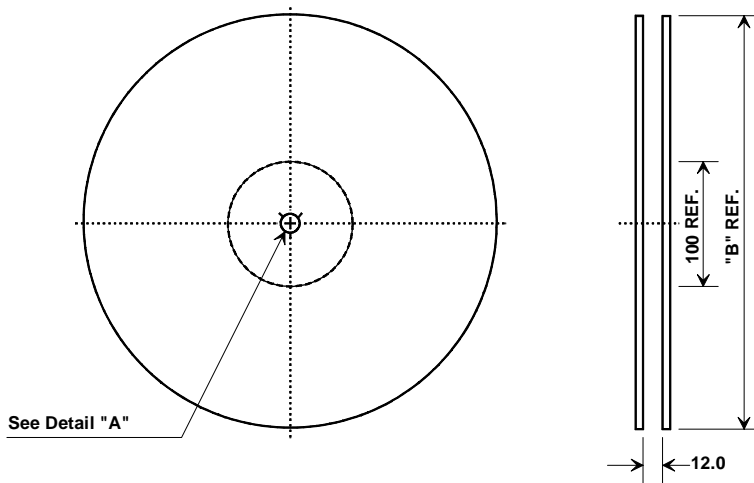
TOP VIEW



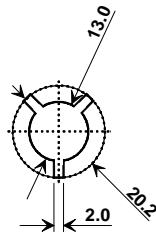
BOTTOM VIEW



Tape and Reel Specifications



| "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 |

