

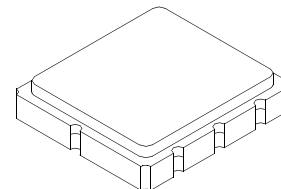
- **Low Insertion Loss**
- **5.0 X 5.0 mm Surface-mount Case**
- **Single-ended Input and Output**
- **Complies with Directive 2002/95/EC (RoHS)**
- **Moisture Sensitivity Level: 1**

Absolute Maximum Ratings

| Rating | Value | Units |
|--|-----------------|-------|
| Maximum Incident Power in Passband | +13 | dBm |
| Maximum DC Voltage on any Non-ground Terminal | 30 | VDC |
| Storage Temperature Range in Tape and Reel | -40 to +85 | °C |
| Suitable for Lead-free Soldering - Maximum Soldering Temperature | 260 °C for 30 s | |

SF2089C

**327.5 MHz
SAW Filter**



SM5050-8

Electrical Characteristics

| Characteristic | Sym | Notes | Min | Typ | Max | Units |
|--|------------|-------|-------------------------------------|-------|-------|-------------------|
| Center Frequency | f_c | | | 327.5 | | MHz |
| Insertion Loss | | | | | 12 | dB |
| 1.5 dB Bandwidth | $BW_{1.5}$ | | 35 | | | MHz |
| Amplitude Ripple, $f_c \pm 17.5$ MHz, within adjacent 5 MHz windows | | | | | 1 | dB _{p-p} |
| Group Delay Deviation, $f_c \pm 17.5$ MHz, within adjacent 5 MHz windows | | | | | 50 | nS _{p-p} |
| Group Delay Deviation, $f_c \pm 17.5$ MHz, full bandwidth | | | | 50 | 100 | nS _{p-p} |
| VSWR at f_c | | | | | 2.5:1 | |
| 40 dB Rejection Bandwidth | | | | | 65 | MHz |
| Operating Temperature Range | | | -40 | | 85 | °C |
| Case Style | | | SM5050-8 5 x 5 mm Nominal Footprint | | | |
| Lid Symbolization (Y=year, WW=week, S=shift) | | | 591, YWWS | | | |

Electrical Connections

| Connection | | Terminals |
|---------------------|--------|------------|
| Port 1 | Input | 1 |
| Port 2 | Output | 5 |
| | Ground | All others |
| Dot indicates Pin 1 | | |



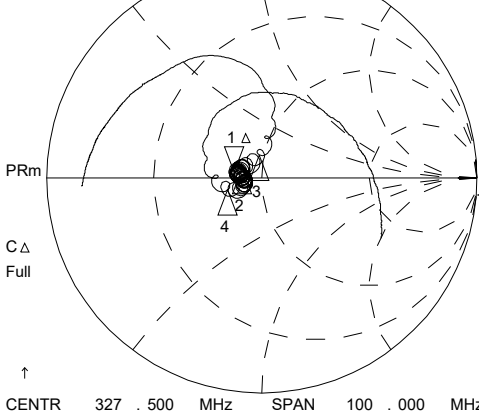
CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

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.

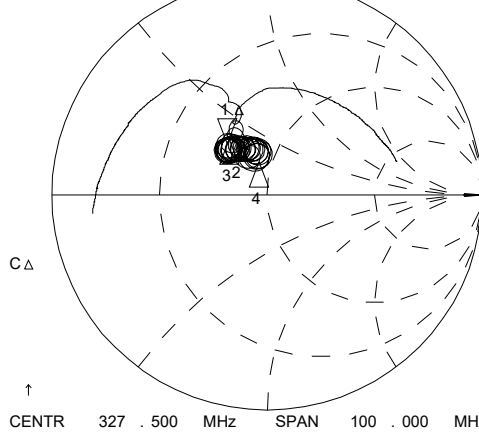
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CH1 S11 1 UFS
 1: 0.0000 Ω 0.0000 Ω 0.0000 H
 0.000 000 MHz



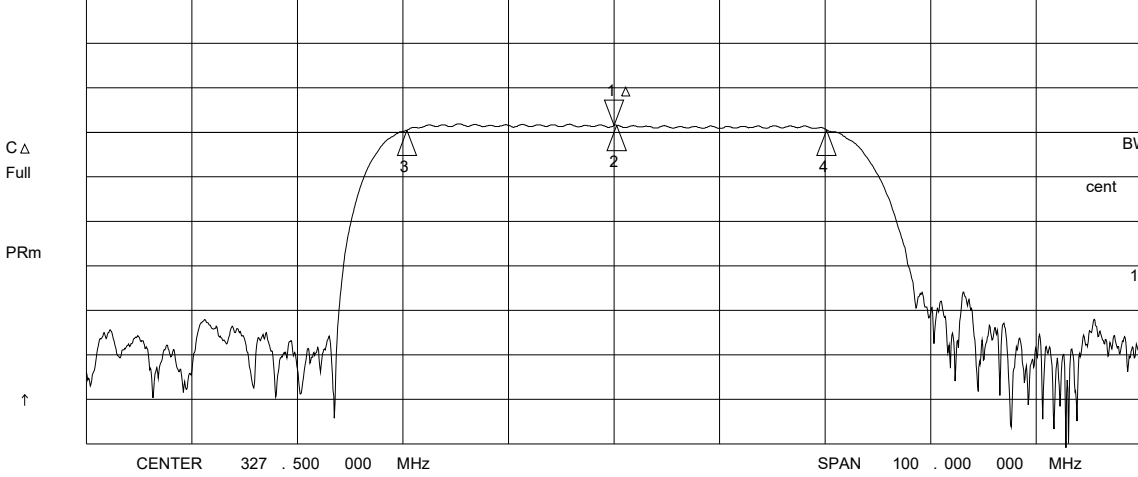
CH1 Markers
 Δ REF=1
 2: 3.0195 Ω
 1.6621 Ω
 282.553 kHz
 3: 9.3320 Ω
 8.3770 Ω
 -19.5794 MHz
 4: -2.2051 Ω
 -6.1328 Ω
 20.1445 MHz

CH3 S22 1 UFS
 1: 0.0000 Ω 0.0000 Ω 0.0000 H
 0.000 000 MHz



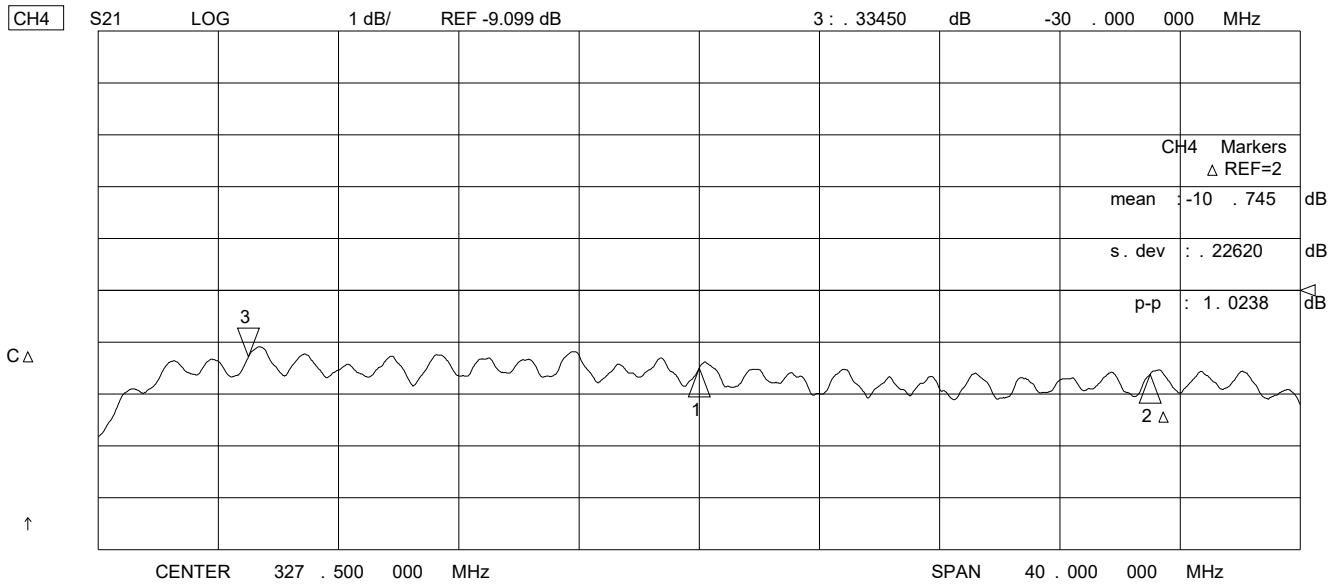
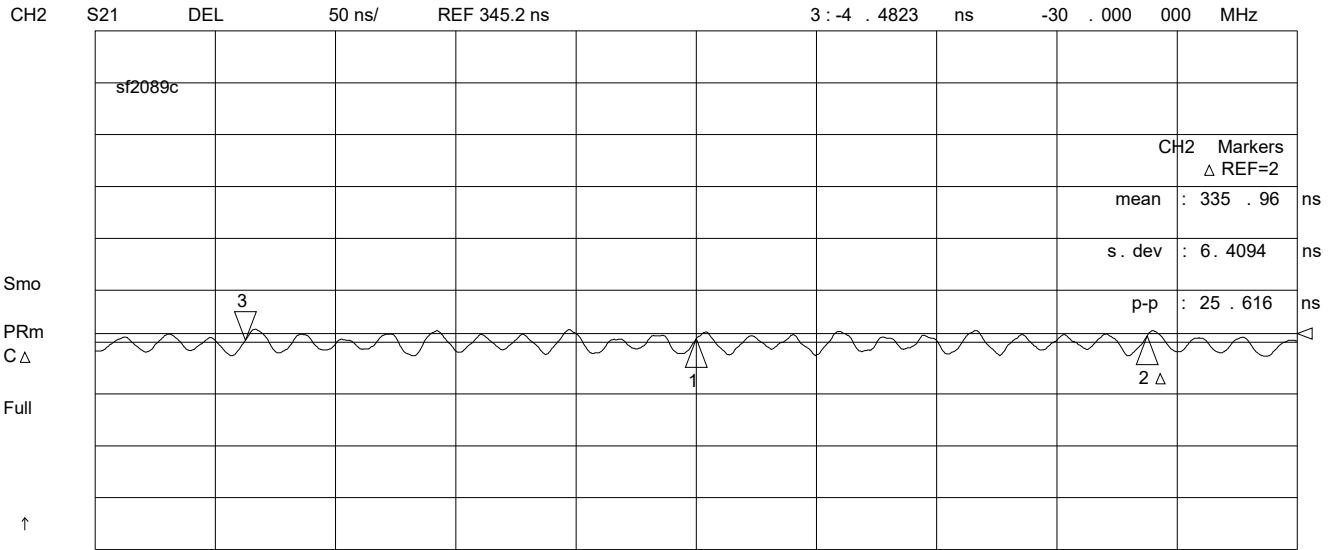
CH3 Markers
 Δ REF=1
 2: 2.5342 Ω
 4.0986 Ω
 282.553 kHz
 3: 70.313 mΩ
 1.7891 Ω
 -19.5794 MHz
 4: 13.325 Ω
 -2.1670 Ω
 20.1445 MHz

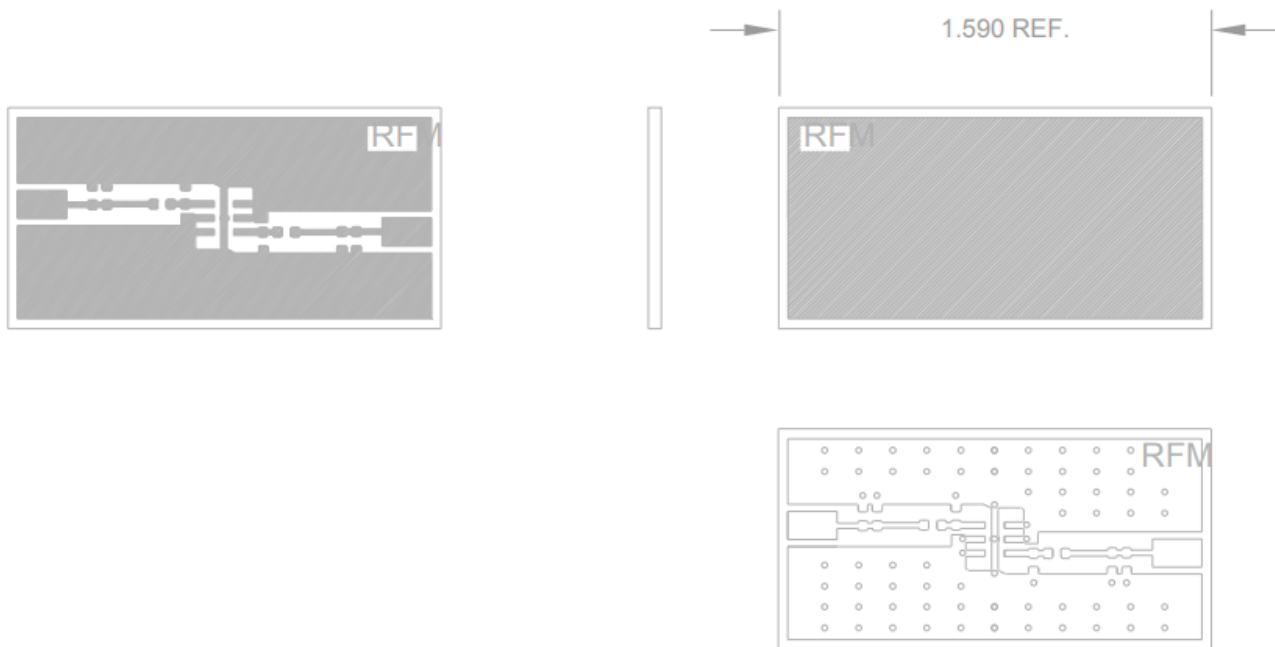
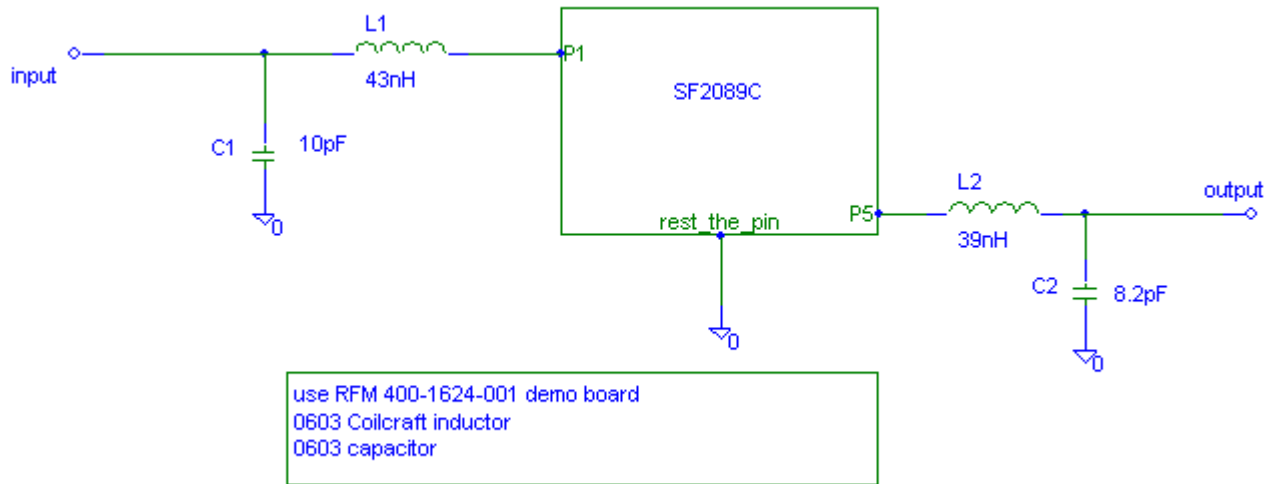
CH2 S21 LOG 10 dB/ REF -12 dB 1: 0.0000 dB 0.000 000 MHz



CH2 Markers
 Δ REF=1
 BW: 39.723986 MHz
 cent: 327.782553 MHz
 Q: 8.2515
 1_loss: -10.490 dB

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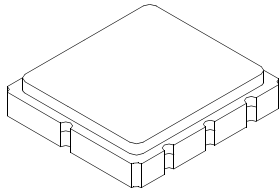


DRILL ALL HOLES #76 DRILL (0.020)
ALL HOLES ARE PLATED THRU.

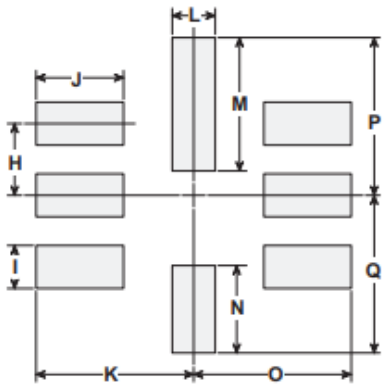
SM5050-8 Surface-Mount 8-Terminal Ceramic Case

5.0 X 5.0 mm Nominal Footprint

Case Dimensions



| Dimension | mm | | | Inches | | |
|-----------|------|------|------|--------|-------|-------|
| | Min | Nom | Max | Min | Nom | Max |
| A | 4.80 | 5.00 | 5.20 | 0.189 | 0.197 | 0.205 |
| B | 4.80 | 5.00 | 5.20 | 0.189 | 0.197 | 0.205 |
| C | 1.30 | 1.50 | 1.70 | 0.050 | 0.060 | 0.067 |
| D | 1.98 | 2.08 | 2.18 | 0.078 | 0.082 | 0.086 |
| E | 1.07 | 1.17 | 1.27 | 0.042 | 0.046 | 0.050 |
| F | 0.50 | 0.64 | 0.70 | 0.020 | 0.025 | 0.028 |
| G | 2.39 | 2.54 | 2.69 | 0.094 | 0.100 | 0.106 |
| H | | 1.27 | | | 0.050 | |
| I | | 0.76 | | | 0.030 | |
| J | | 1.55 | | | 0.061 | |
| K | | 2.79 | | | 0.110 | |
| L | | 0.76 | | | 0.030 | |
| M | | 2.36 | | | 0.093 | |
| N | | 1.55 | | | 0.061 | |
| O | | 2.79 | | | 0.110 | |
| P | | 2.79 | | | 0.110 | |
| Q | | 2.79 | | | 0.110 | |

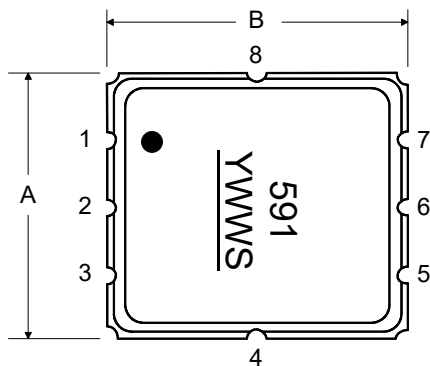


Case Materials

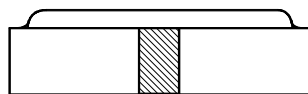
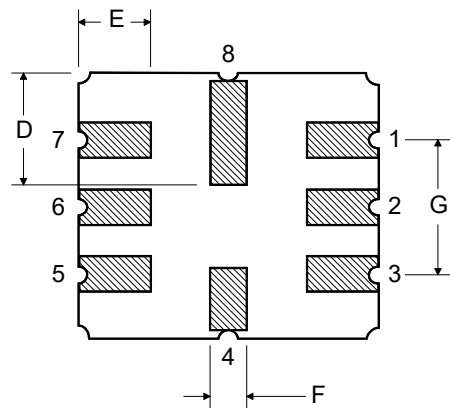
| Materials | |
|--------------------|--|
| Solder Pad Plating | 0.3 to 1.0 μm Gold over 1.27 to 8.89 μm Nickel |
| Lid Plating | 2.0 to 3.0 μm Nickel |
| Body | Al_2O_3 Ceramic |

PCB Footprint

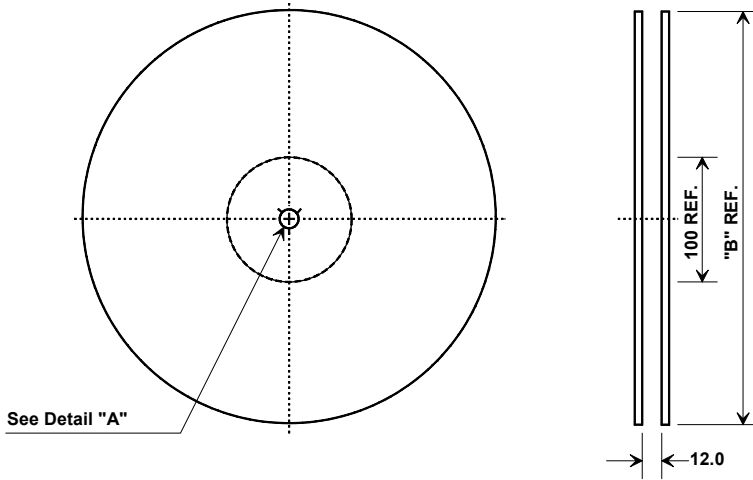
TOP VIEW



BOTTOM VIEW

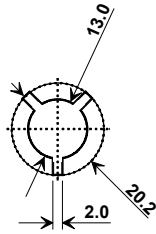


Tape and Reel Specifications



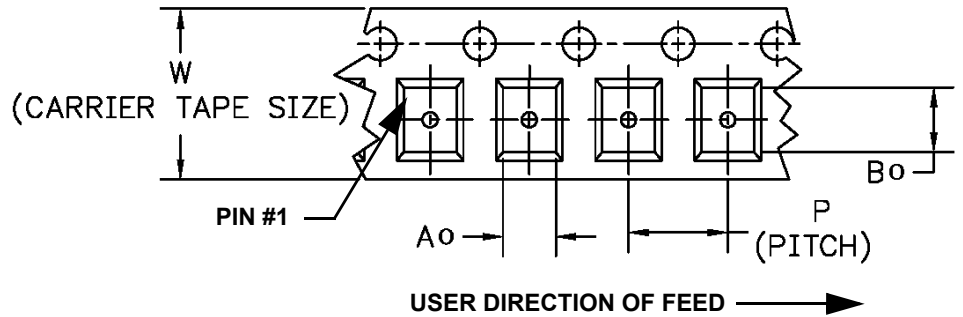
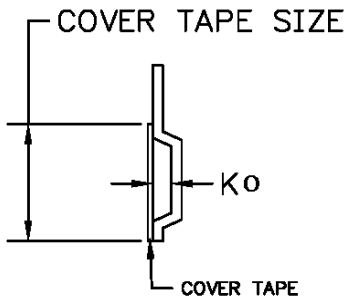
Tape and Reel Standard per ANSI/EIA-481

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



COMPONENT ORIENTATION and DIMENSIONS

| Carrier Tape Dimensions | |
|-------------------------|---------|
| Ao | 5.3 mm |
| Bo | 5.3 mm |
| Ko | 2.0 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.

