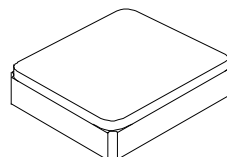


- Designed for Front End GPS, Beidou, and Glonass Applications
- Steep Rejection
- 2.0 x 1.6 x 1.0 mm Surface-Mount Case
- Complies with Directive 2002/95/EC (RoHS)



SF2474H

**1176 MHz
SAW Filter**



SM2016-4

Absolute Maximum Ratings

| Rating | Value | Units |
|--|----------------|-------|
| Input Power Level | +10 | dBm |
| DC Voltage | 3 | VDC |
| Operable Temperature Range | -45 to +125 | °C |
| Specification Temperature Range | -40 to +105 | °C |
| Storage Temperature Range in Tape and Reel | -40 to +85 | °C |
| Moisture Sensitivity Level | Level 1 (MSL1) | |

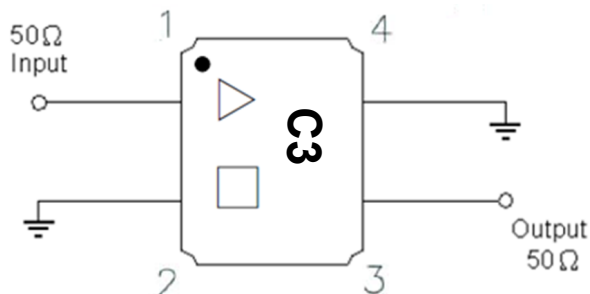
Electrical Characteristics

| Characteristic | Sym | NOTE | -40 to +105°C | | | UNITS |
|---|-----|------|---------------|---------|-----|--------|
| | | | MIN | TYPICAL | MAX | |
| Center Frequency | Fc | | | 1176 | | MHz |
| Insertion Loss, 1156 to 1196 MHz | IL | 3 | | 3.2 | 3.3 | dB |
| Group Delay Ripple, 1156 to 1196 MHz | | | | | 5.0 | ns |
| S11, 1156 to 1196 MHz | | | 9.5 | 10 | | dB |
| Attenuation (reference level from 0 dB) | | | | | | dB |
| DC to 920 MHz | | | 25 | 27 | | |
| 1350 to 1780 MHz | | | 28 | 30 | | |
| 1850 to 1910 MHz | | | 30 | 32 | | |
| 1920 to 1980 MHz | | | 30 | 32 | | |
| 2400 to 2500 MHz | | | 35 | 38 | | |
| Temperature Coefficient of Frequency | | | | -80 | | ppm/°C |

| | | |
|---|---|--------------------|
| Standard Reel Quantity | Reel Size: 7 inch | 2500 Pieces/Reel |
| | Reel size: 13 inch | 10,000 Pieces/Reel |
| Single-ended Input / Output Impedance Match | No matching network required for operation at 50 ohms | |
| Package Size | SM2016-4 | |
| Lid Symbolization (Y=year, W=week) | C3, YW | |

Electrical Connections

| Connection | Terminals |
|------------|------------|
| Input | 1 |
| Output | 3 |
| Ground | All others |

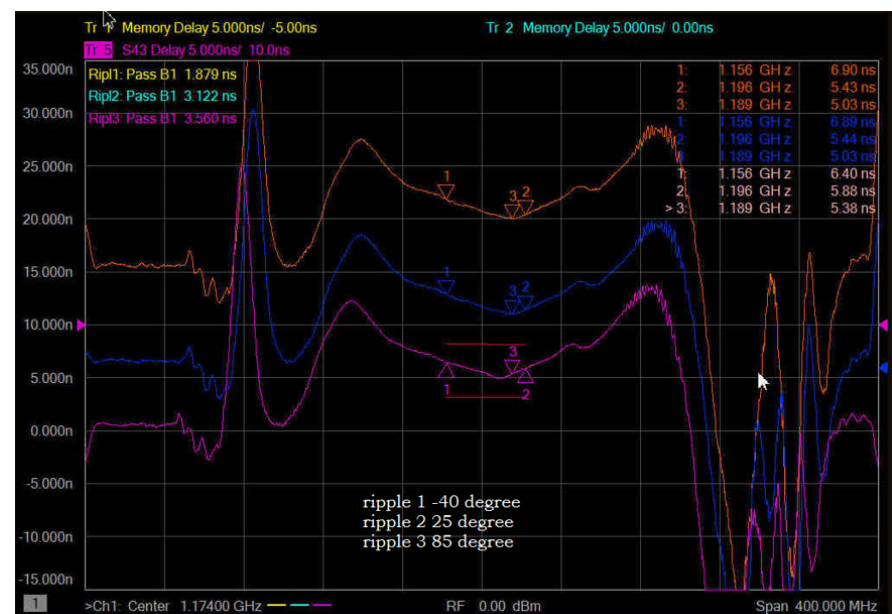
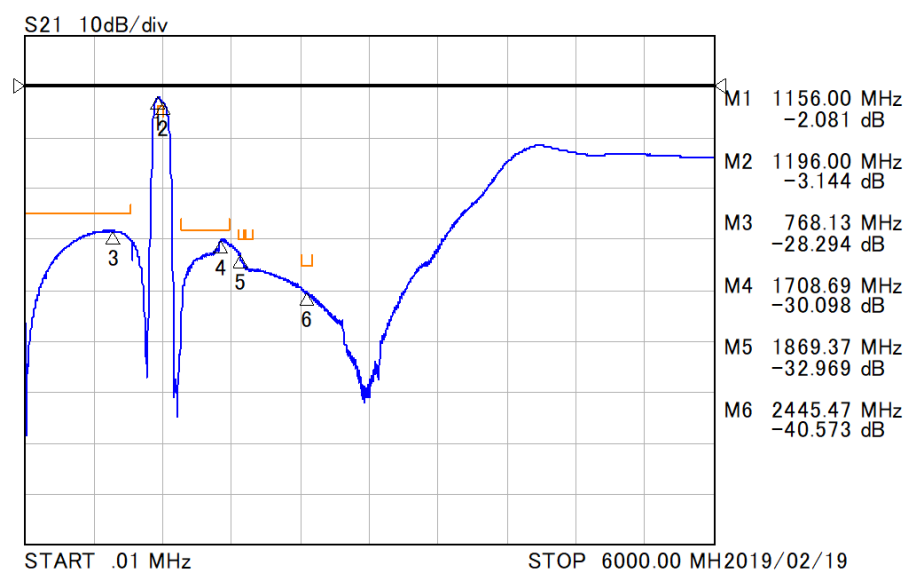
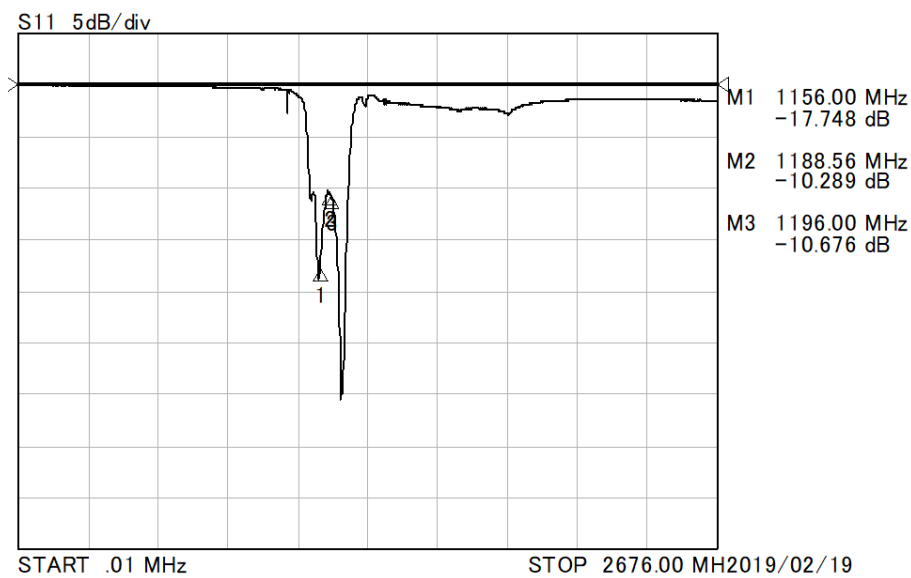


CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

NOTES:

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

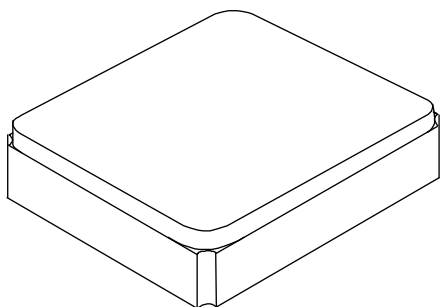
Frequency Characteristics



SM2016-4 Case

4-Terminal Ceramic Surface-Mount Case

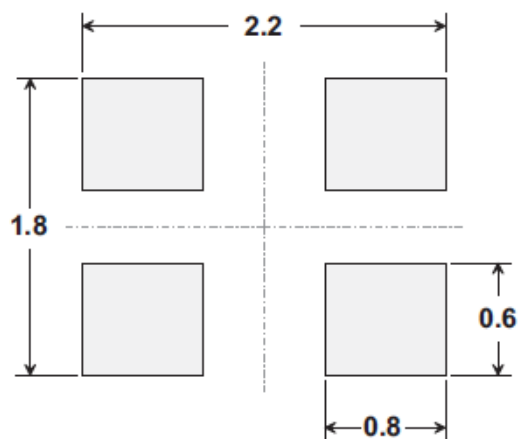
2.0 X 1.6 mm Nominal Footprint



Case Dimensions

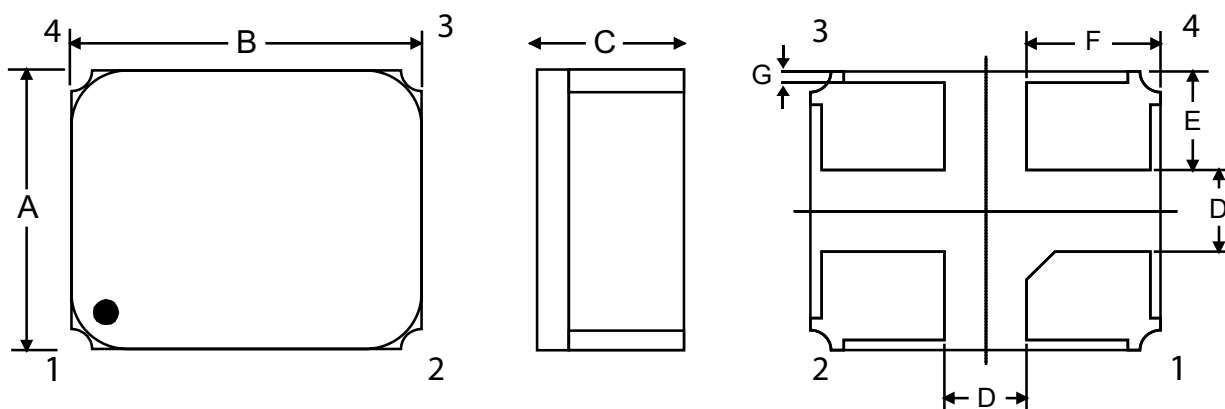
| Dimension | mm | | |
|-----------|------|-------|------|
| | Min | Nom | Max |
| A | 1.58 | 1.65 | 1.72 |
| B | 1.98 | 2.05 | 2.12 |
| C | - | - | 0.90 |
| D | - | 0.60 | |
| E | - | 0.425 | |
| F | - | 0.625 | |
| G | - | 0.10 | |

PCB Pad Layout



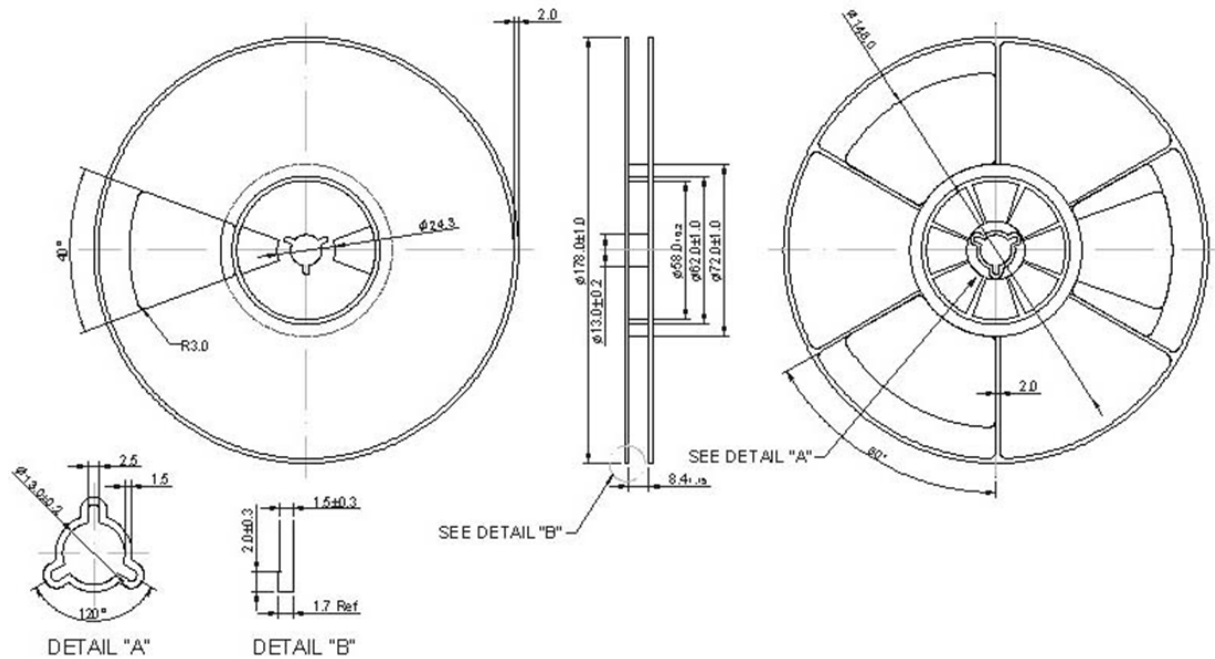
| Materials | |
|--------------------|--|
| Solder Pad Plating | 0.3 to 1.0 μm Gold over 1.27 to 8.89 μm Nickel |
| Lid Plating | 2.0 to 3.0 μm Nickel |
| Body | Al_2O_3 Ceramic |
| Pb Free | |

Dimensions are in mm
All pads have the same dimension

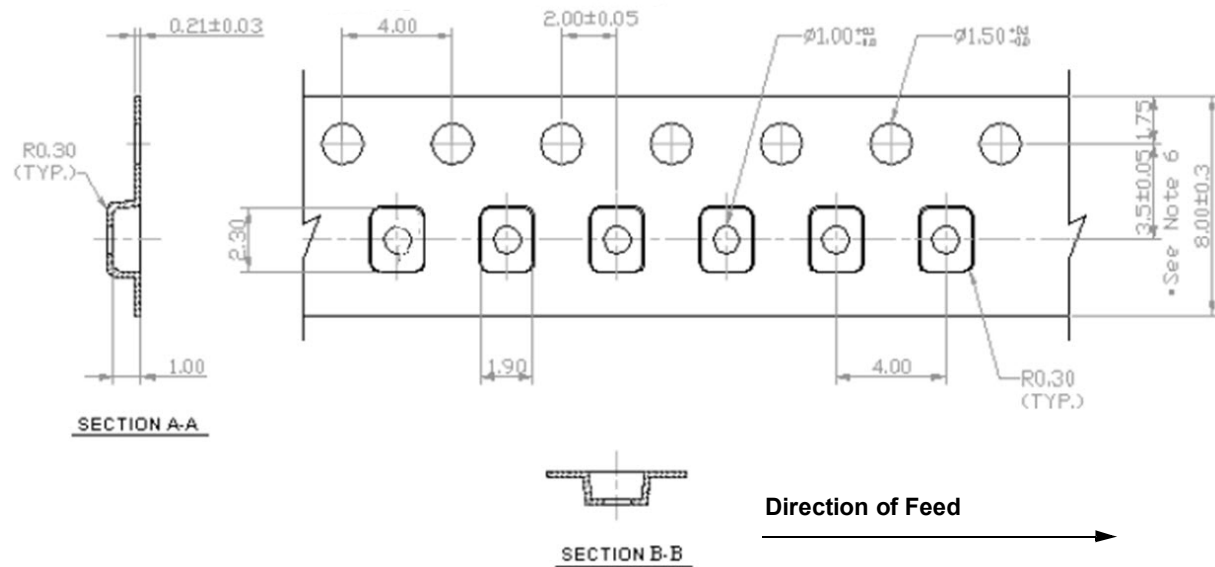


Tape and Reel Specifications

Tape and Reel Standard per ANSI/EIA481

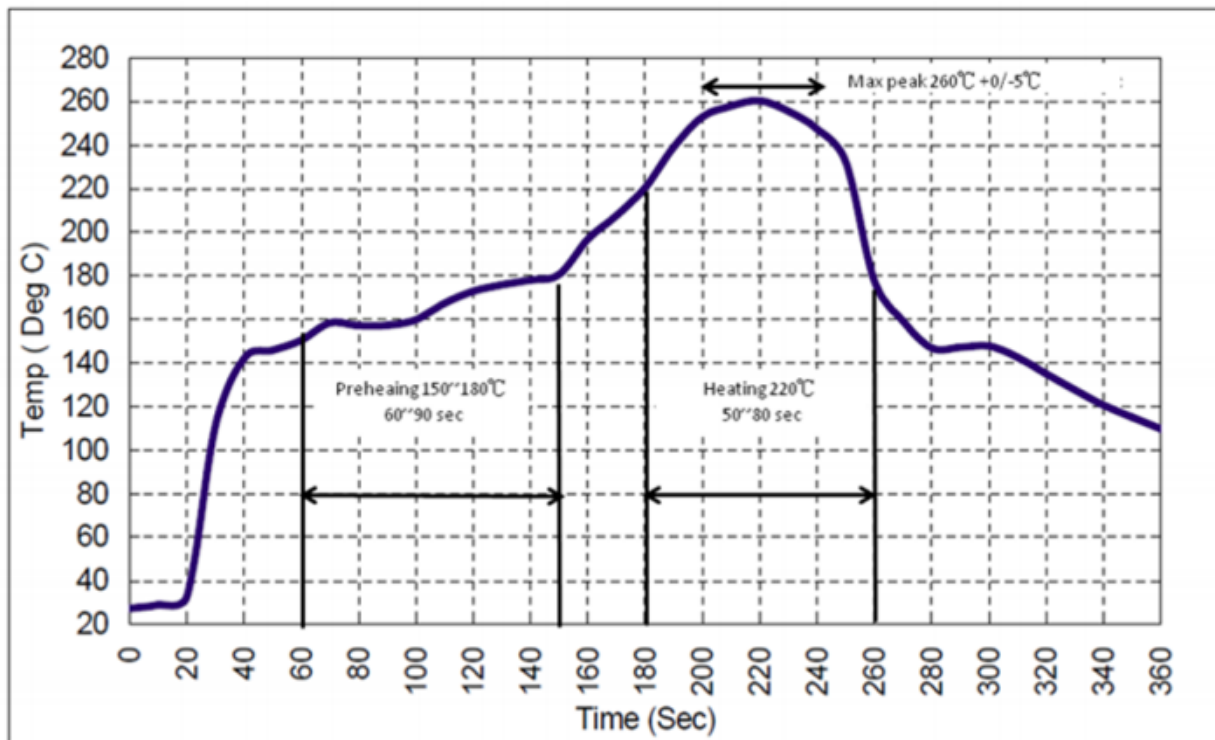


Tape Dimensions



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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