

SAW BANDPASS FILTER

ACT PART NO.: ACTFG001-1575.42M-1411

| | | |
|----------------------|--|--------------------------------|
| Product Type: | | Customer: |
| SAW Filter | | |
| Description: | | Customer Part NO.: |
| GPS Filter. | | |
| | | Issued Date: 02/07/2015 |
| | | |

| PREPARED BY | CHECKED BY | APPROVED BY |
|--------------------|-------------------|--------------------|
| | | |

In line with our ongoing policy of product evolution and improvement, the above specification may subject to change without notice

ISO9001 Registered

For quotations or further information please contact us at:

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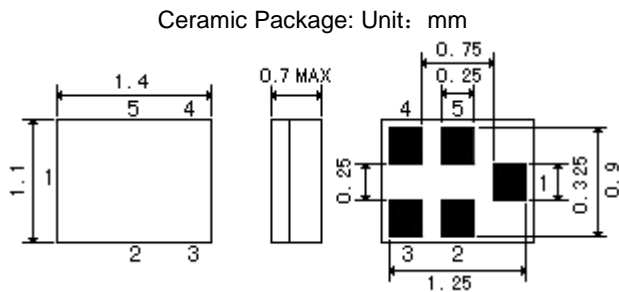
<http://www.actcrystals.com>

Features

SAW filter for GPS.

- 1 High stability and reliability with good performance and no adjustment.
- 2 Narrow and sharp pass band characteristics. RoHS compatible.
- 3 Low insertion loss and deep stop band attenuation for interference.
- 4 Low – loss SAW filter for GPS.
- 5 Package size 1.4*1.1

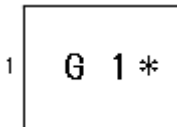
Package Dimensions



Pin Configuration

| | |
|-------|--------|
| 1 | Input |
| 4 | Output |
| 2,3,5 | Ground |

Marking



Top View, Laser Printing

"G1": Part number

"1": Terminal 1

"*": Lot number (The code shown below varies in a 4-year cycle)

| Code | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|------|---|---|---|---|---|---|---|---|---|----|----|----|
| 2015 | a | b | c | d | e | f | g | h | i | j | k | m |
| 2016 | n | p | q | r | s | t | u | v | w | x | y | z |
| 2017 | A | B | C | D | E | F | G | H | J | K | L | M |
| 2018 | N | P | Q | R | S | T | U | V | W | X | Y | Z |

Maximum Ratings

| Rating | Value | Unit |
|------------------------------------|-----------|--------------|
| DC Voltage (between any Terminals) | V_{DC} | 10 V |
| RF Power (in BW) | P | 10 dBm |
| Operating Temperature Range | T_A | -40 ~ +85 °C |
| Storage Temperature Range | T_{stg} | -40 ~ +85 °C |

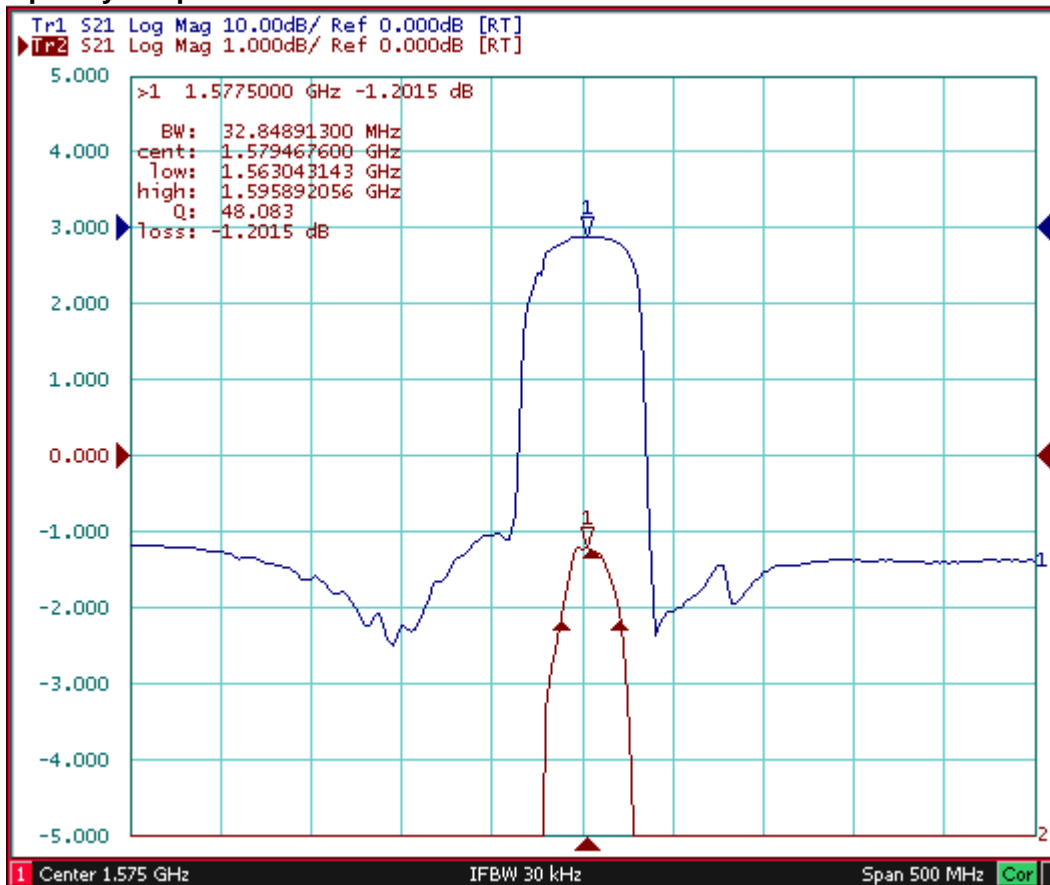
Electrical Characteristics:

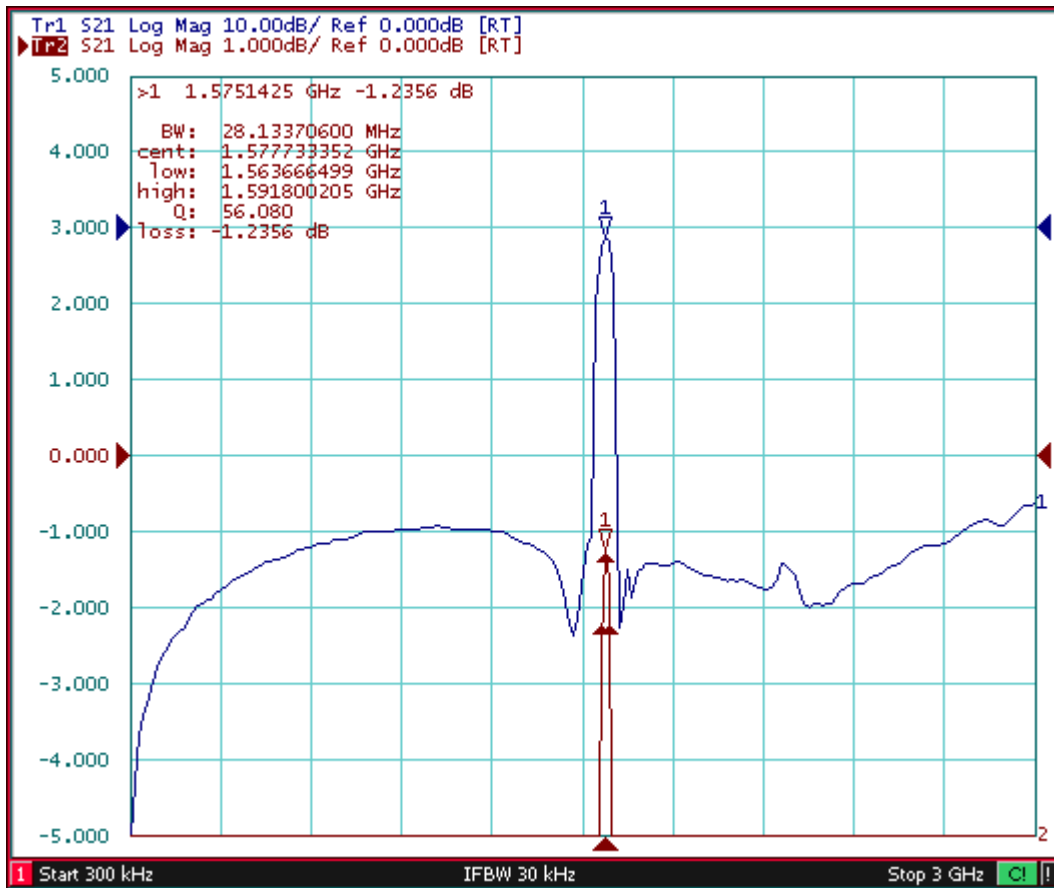
| Item | | Minimum | Typical | Maximum | Unit |
|---|----------|---------|---------|---------|------|
| Center Frequency | fC | - | 1575.42 | - | MHz |
| Insertion Loss in 1574.42–1576.42MHz | IL | - | 1.2 | 1.5 | dB |
| Amplitude Variation in 1574.42–1576.42MHz | | | 0.1 | 0.5 | dB |
| Absolute Attenuation | α | | | | |
| 0.30 ... 1450.0MHz | | 35 | 39 | - | dB |
| 1450.0 ... 1525.0 MHz | | 38 | 45 | - | dB |
| 1620.0 ... 1640.0 MHz | | 45 | 48 | - | dB |
| 1640.0 ... 1805.0MHz | | 38 | 40 | | dB |
| 1805.0 ... 1910.0 MHz | | 38 | 40 | -- | dB |
| 1910.0 ... 2000.0 MHz | | 38 | 43 | -- | dB |
| 2000.0 ... 4000.0 MHz | | 30 | 45 | -- | dB |
| 4000.0 ... 6000.0 MHz | | 20 | 22 | -- | dB |
| VSWR in 1574.42–1576.42MHz | | - | 1.15 | 1.5 | |

 RoHS Compliant

 Electrostatic Sensitive Device

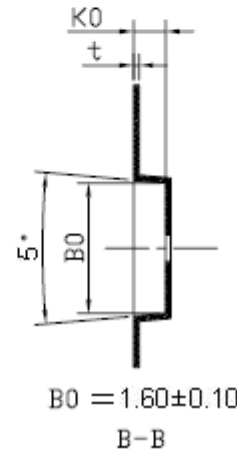
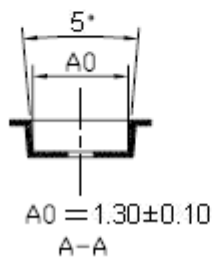
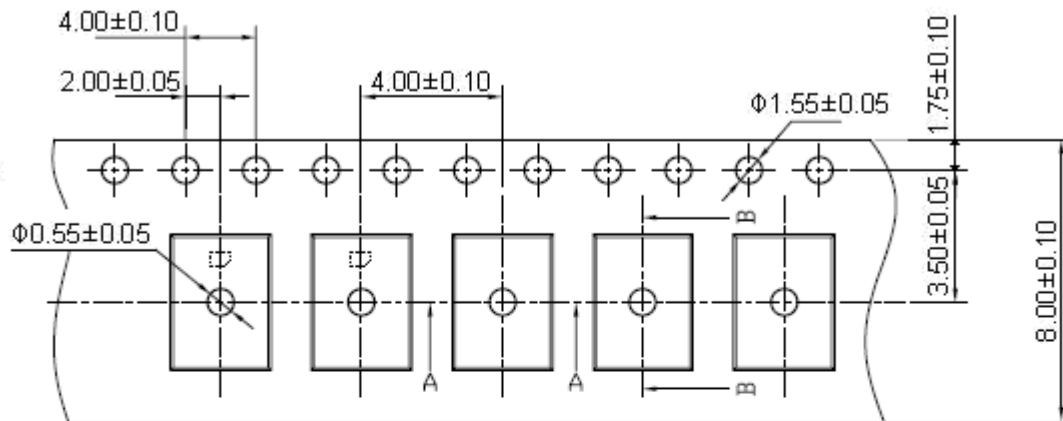
Typical Frequency Response





Packing Information

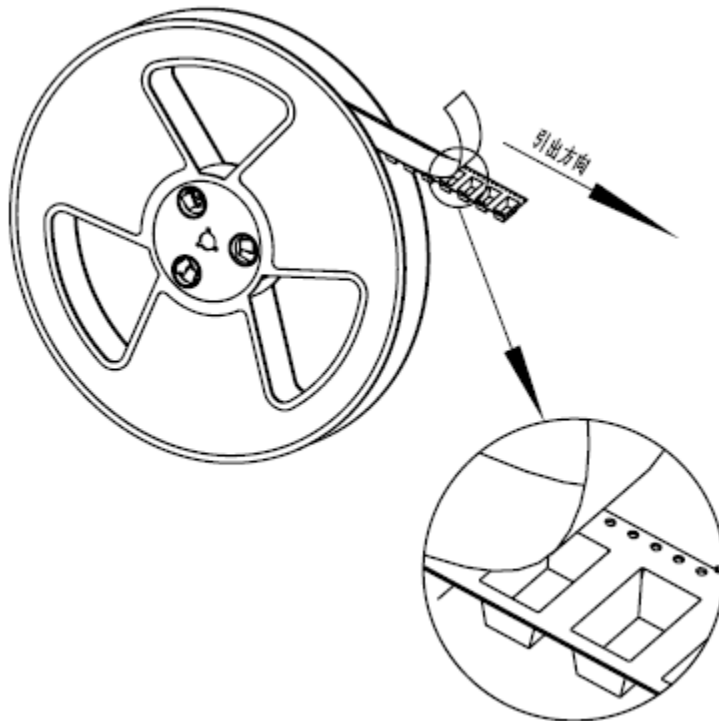
Carrier Tape



K0 = 0.90 ± 0.10

t = 0.20 ± 0.05

Reel Dimensions



| | |
|-----------|-----------|
| Material | PS |
| Unit | mm |
| Tolerance | ±0.20 mm |
| Quantity | 3000/reel |

Stability Characteristics

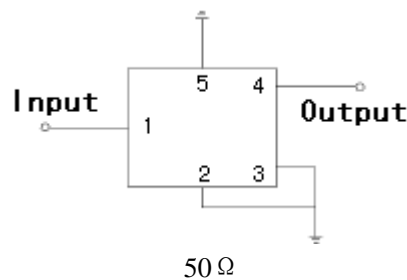
| | Test item | Condition of test |
|---|---------------------------|--|
| 1 | Mechanical shock | (a) Drops: 3 times on concrete floor (b) Height: 1.0 m |
| 2 | Vibration resistance | (a) Frequency of vibration: 10~55Hz (c) Directions: X,Y and Z (b) Amplitude: 1.5 mm (d) Duration: 2 hours |
| 3 | Moisture resistance | (a) Condition: 40°C ± 2°C , 93+2 -3% RH. (b) Duration: 96 hours (c) Wait 4 hours before measurement |
| 4 | Climatic sequence | (a) +70°C for 16 hours (c) -25°C for 2 hours (e) Wait 4 hours before measurement (b) +55°C for 24 hours, 90~95% R.H. (d) +40°C for 24 hours, 90~95% R.H. |
| 5 | High temperature exposure | (a) Temperature: 85°C (c) Wait 4 hours before measurement (b) Duration: 250 hours |
| 6 | Temperature cycling | (a) +85°C for 30 minutes ⇒ -40°C for 30 minutes repeated 120 times (b) Wait 4 hours before measurement |

Requirements: The SAW filter shall remain within the electrical specifications after tests.

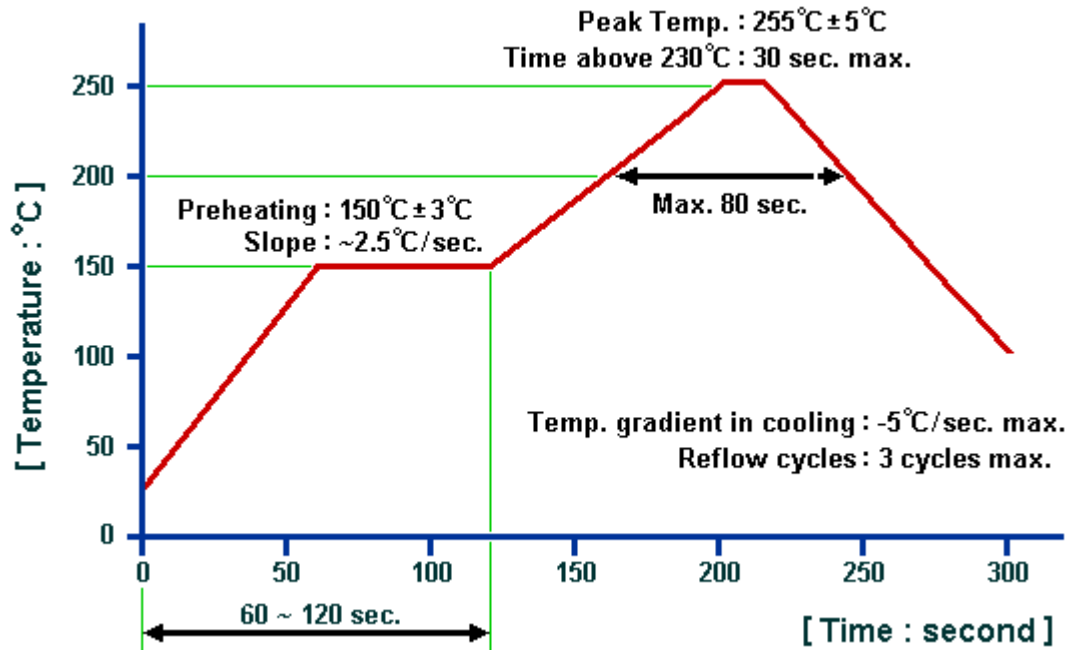
Remarks

- SAW devices should not be used in any type of fluid such as water, oil, organic solvent, etc.
- Be certain not to apply voltage exceeding the rated voltage of components.
- Do not operate outside the recommended operating temperature range of components.
- Sudden change of temperature shall be avoided, deterioration of the characteristics can occur.
- Be careful of soldering temperature and duration of components when soldering.
- Do not place soldering iron on the body of components.
- Be careful not to subject the terminals or leads of components to excessive force.
- SAW devices are electrostatic sensitive. Please avoid static voltage during operation and storage.
- Ultrasonic cleaning shall be avoided. Ultrasonic vibration may cause destruction of components.

Test Circuit



Recommended Soldering Profile



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1. The specifications of this device are subject to change or obsolescence without notice.
2. Typically, equipment utilizing this device requires emissions testing and government approval, which is the responsibility of the equipment manufacturer.
3. Our liability is only assumed for the Surface Acoustic Wave (SAW) component(s) per se, not for applications, processes and circuits implemented within components or assemblies.