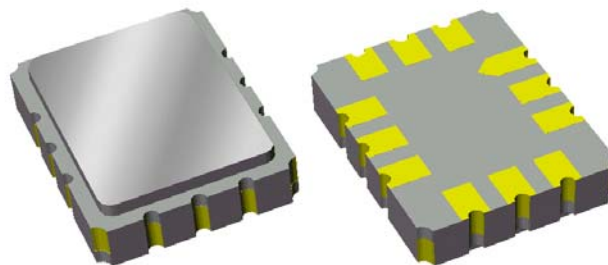


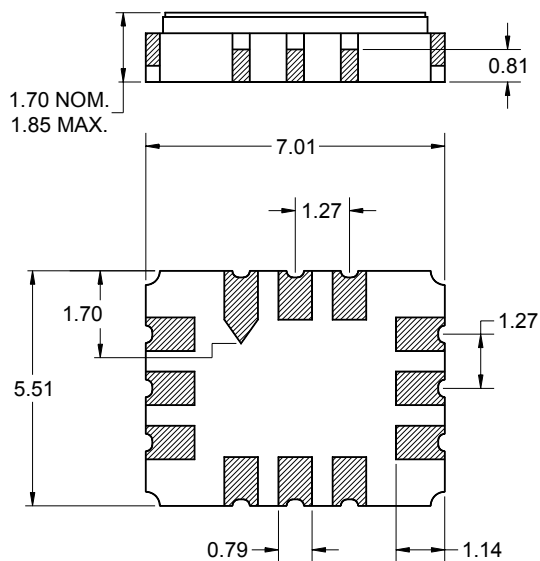
## Features

- For WCDMA applications
- Usable bandwidth of 8.84 MHz
- Low loss
- High attenuation
- Single-ended input
- Single-ended or balanced output
- Ceramic Surface Mount Package (SMP)
- Small size
- Hermetic
- RoHS compliant (2002/95/EC), Pb-free 



## Package

Surface Mount 7.01 x 5.51 x 1.70 mm

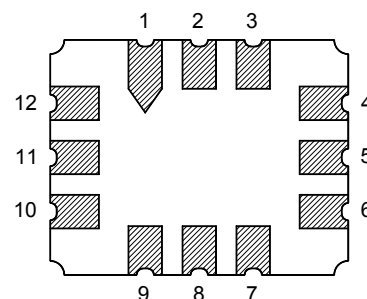


Dimensions shown are nominal in millimeters  
All tolerances are  $\pm 0.15$  mm except overall  
length and width  $\pm 0.13$  mm

Body:  $Al_2O_3$  ceramic  
Lid: Kovar, Ni plated  
Terminations: Au plating 0.5 - 1.0  $\mu$ m,  
over a 2 - 6  $\mu$ m Ni plating

## Pin Configuration

Bottom View



| Pin No. | Description    |
|---------|----------------|
| 10      | Input          |
| 4       | Output +       |
| 6       | Output -       |
| 3,9,12  | To be grounded |
| 1,2,5   | Case Ground    |
| 7,8,11  | Case Ground    |

**Electrical Specifications <sup>(1)</sup>**

**Operating Temperature Range:** <sup>(2)</sup> -40 to +85°C

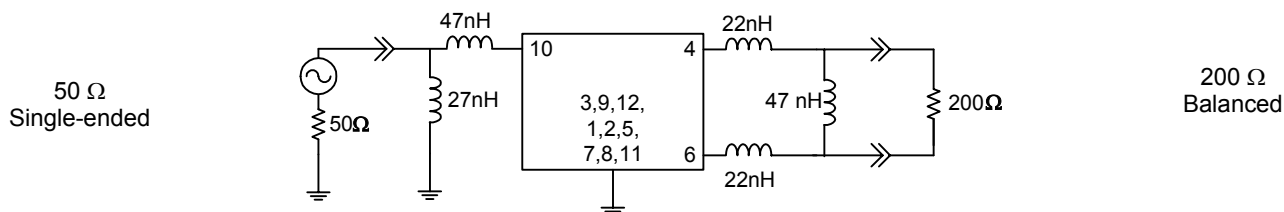
| Parameter <sup>(3)</sup>                                           | Minimum | Typical | Maximum | Unit |
|--------------------------------------------------------------------|---------|---------|---------|------|
| <b>Center Frequency (Fc)</b>                                       | -       | 172.8   | -       | MHz  |
| <b>Maximum Insertion Loss</b><br>Fc ± 4.42 MHz                     | -       | 9.0     | 12.5    | dB   |
| <b>Attenuation <sup>(4)</sup></b><br>Fc ± 8.0 MHz to Fc ± 11.0 MHz | 32      | 43      | -       | dB   |
| Fc ± 11.0 MHz to Fc ± 25.0 MHz                                     | 37      | 45      | -       | dB   |
| Fc ± 25.0 MHz to Fc ± 34.0 MHz                                     | 45      | 55      | -       | dB   |
| Fc ± 34.0 MHz to Fc ± 100.0 MHz                                    | 55      | 60      | -       | dB   |
| <b>Amplitude Variation</b><br>Fc ± 4.42 MHz                        | -       | 0.5     | 1.3     | dB   |
| <b>Group Delay Variation</b><br>Fc ± 4.42 MHz                      | -       | 50      | 150     | ns   |
| <b>Phase Variation</b><br>Fc ± 4.42 MHz                            | -       | 4       | -       | deg  |
| <b>Input/Output VSWR</b><br>Fc ± 4.42 MHz                          | -       | 1.5:1   | 2.0:1   |      |
| <b>Source Impedance (single ended) <sup>(5)</sup></b>              | -       | 50      | -       | Ω    |
| <b>Load Impedance: (balanced) <sup>(5)</sup></b>                   | -       | 200     | -       | Ω    |

**Notes:**

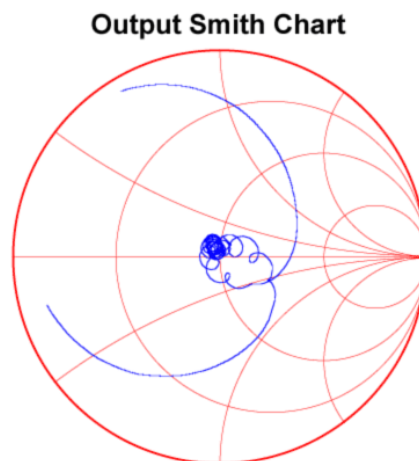
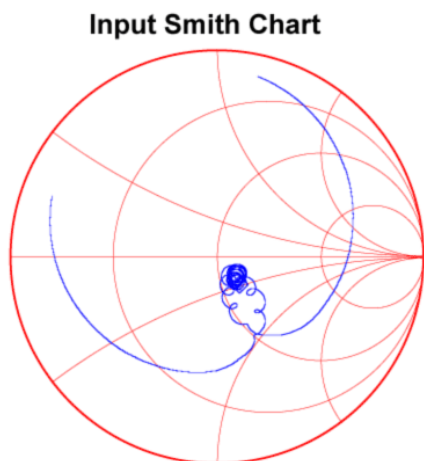
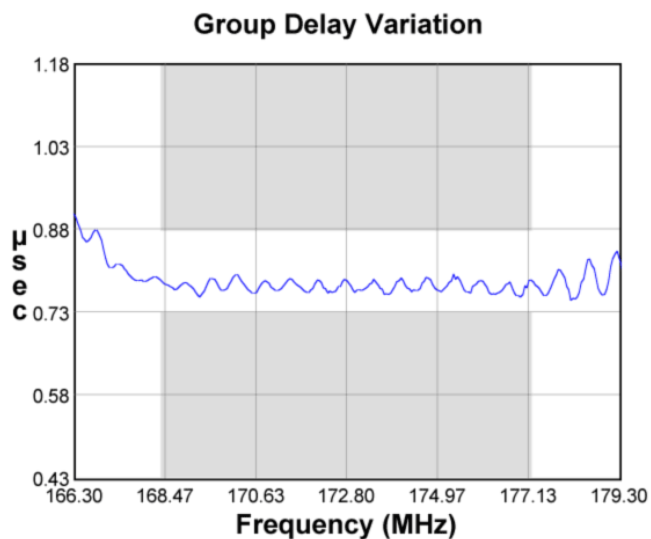
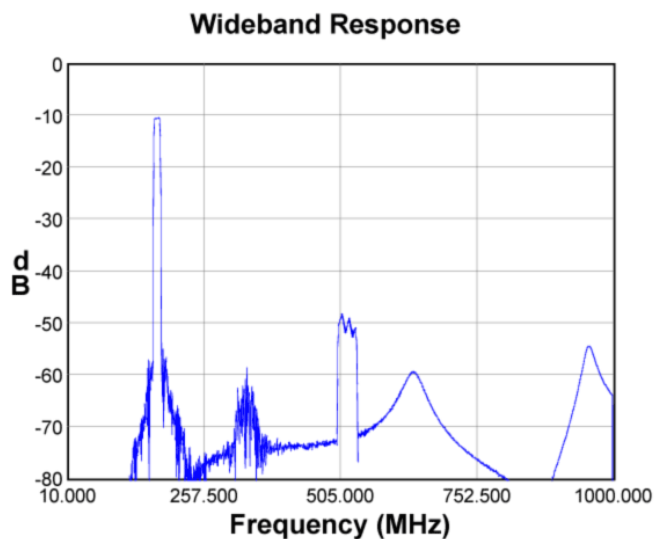
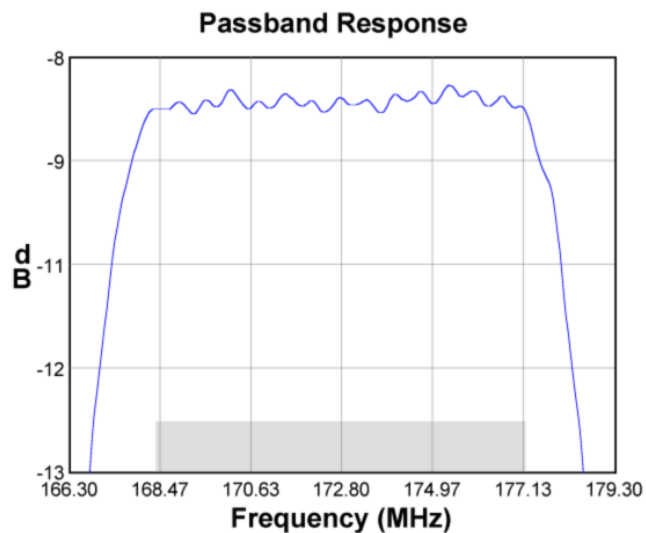
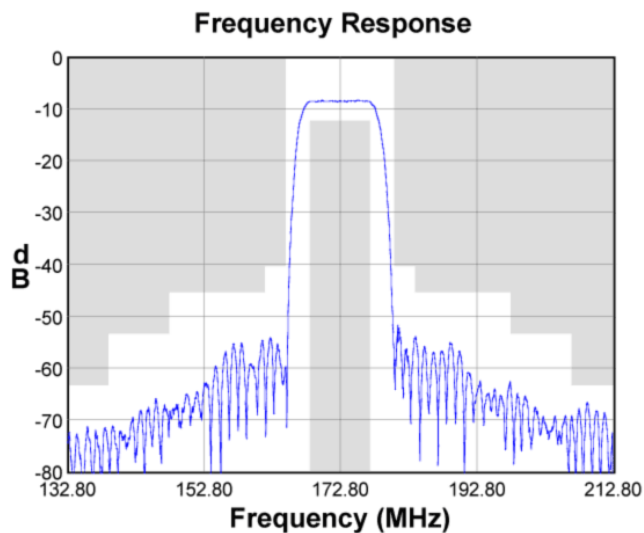
1. All specifications are based on Triquint test circuit shown below
2. In production, devices will be tested at room temperature to a guardbanded specification to ensure electrical compliance over temperature
3. Electrical margin has been built into the design to account for the variations due to temperature drift and manufacturing tolerances
4. Relative to the maximum insertion loss
5. This is the optimum impedance in order to achieve the performance shown

**Test Circuit:**

Actual matching values may vary due to PCB layout and parasitics

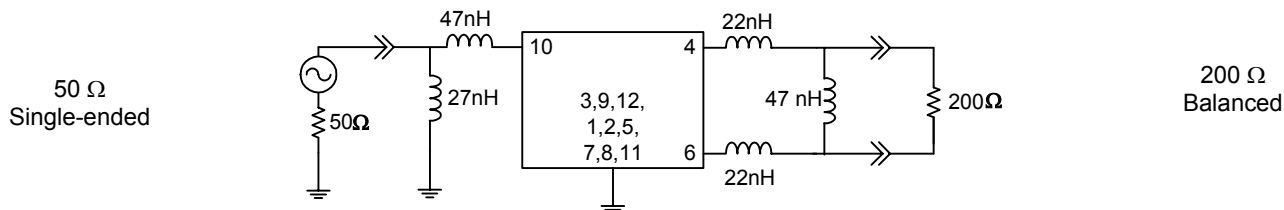


**Typical Performance (at +25°C)**

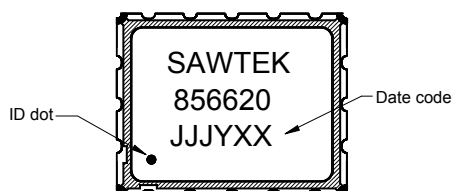


## Matching Schematics

Actual matching values may vary due to PCB layout and parasitics

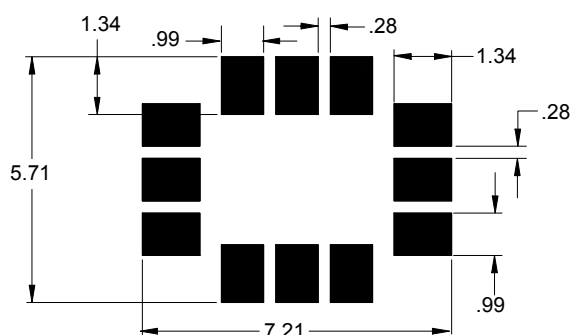


## Marking



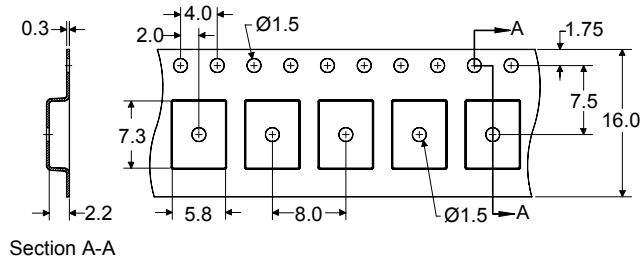
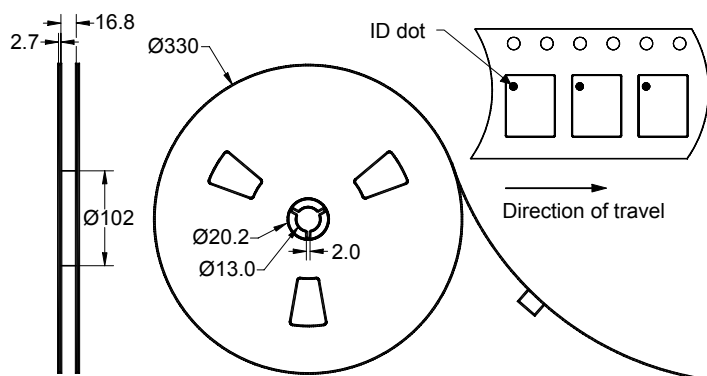
The date code consists of: day of the current year (Julian, 3 digits), last digit of the year (1 digit) and hour (2 digits)

## PCB Footprint



This footprint represents a recommendation only  
Dimensions shown are nominal in millimeters

## Tape and Reel



Dimensions shown are nominal in millimeters  
Packaging quantity: 3000 units/reel

## Maximum Ratings

| Parameter                   | Symbol           | Minimum | Maximum | Unit |
|-----------------------------|------------------|---------|---------|------|
| Operating Temperature Range | T                | -40     | +85     | °C   |
| Storage Temperature Range   | T <sub>stg</sub> | -40     | +85     | °C   |

### Warnings

- Electrostatic Sensitive Device (ESD)
- Avoid ultrasonic exposure



### RoHS Compliance

- This product complies with EU directive 2002/95/EC (RoHS)



### Solderability

- Compatible with JEDEC J-STD-020C **Pb**-free process, **260°C** peak reflow temperature ([see soldering profile](#))

## Links to Additional Technical Information

[PCB Layout Tips](#)

[Qualification Flowchart](#)

[Soldering Profile](#)

[S-Parameters](#)

[RoHS Information](#)

[Other Technical Information](#)

TriQuint's liability is limited only to the Surface Acoustic Wave (SAW) component(s) described in this data sheet. TriQuint does not accept any liability for applications, processes, circuits or assemblies which are implemented using any TriQuint component described in this data sheet.

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