
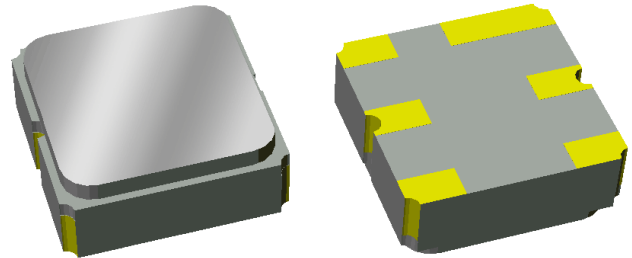


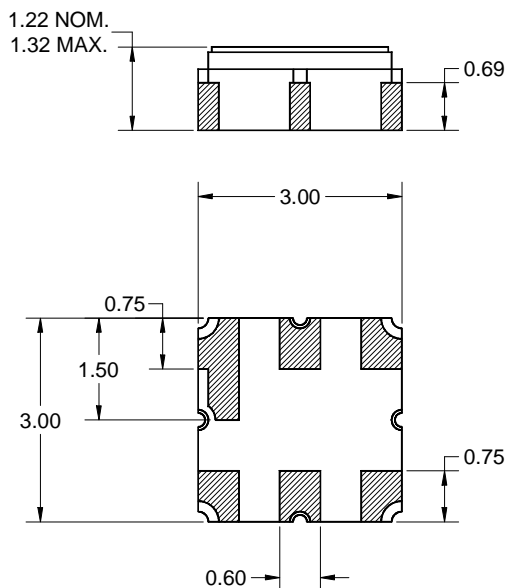
## Features

- For Base Station applications
- Usable bandwidth 11 MHz
- Low loss
- High attenuation
- Single-ended operation
- No impedance matching required for operation at 50  $\Omega$
- Ceramic Surface Mount Package (SMP)
- Hermetic
- RoHS compliant (2002/95/EC), Pb-free 



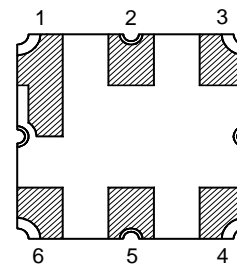
## Package

Surface Mount 3.00 x 3.00 x 1.22 mm  
SMP-12



## Pin Configuration

Bottom View



| Pin No. | Description |
|---------|-------------|
| 2       | Input       |
| 5       | Output      |
| 1,3,4,6 | Case Ground |

Dimensions shown are nominal in millimeters  
All tolerances are  $\pm 0.15$ mm except overall  
length and width  $\pm 0.10$ 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

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

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

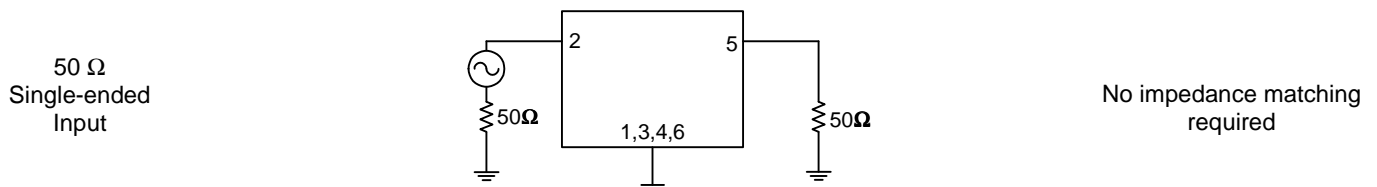
| Parameter <sup>(3)</sup>                       | Minimum | Typical <sup>(4)</sup> | Maximum | Unit   |
|--|---------|------------------------|---------|--------|
| Center Frequency                               | -       | 781.5                  | -       | MHz    |
| Maximum Insertion Loss<br>776 – 787 MHz        | -       | 1.46                   | 2.5     | dB     |
| Lower 2.5 dB Band Edge <sup>(5)</sup>          | -       | -                      | 787     | MHz    |
| Upper 2.5 dB Band Edge <sup>(5)</sup>          | 776     | -                      | -       | MHz    |
| Amplitude Variation<br>776 – 787 MHz           | -       | 0.38                   | 0.80    | dB p-p |
| Absolute Delay<br>776 – 787 MHz                | -       | 40                     | -       | ns     |
| Absolute Attenuation <sup>(5)</sup>            |         |                        |         |        |
| 200 – 484.5 MHz                                | 41      | 44                     | -       | dB     |
| 484.5 – 740 MHz                                | 40      | 43.7                   | -       | dB     |
| 740 – 757 MHz                                  | 38      | 50.7                   | -       | dB     |
| 806 – 1284 MHz                                 | 37      | 40.4                   | -       | dB     |
| 1284 – 2000 MHz                                | 42      | 49                     | -       | dB     |
| Input/Output Return Loss<br>776 – 787 MHz      | 10      | -                      | -       | dB     |
| Source Impedance (single-ended) <sup>(6)</sup> | -       | 50                     | -       | Ω      |
| Load Impedance (single-ended) <sup>(6)</sup>   | -       | 50                     | -       | Ω      |

**Notes:**

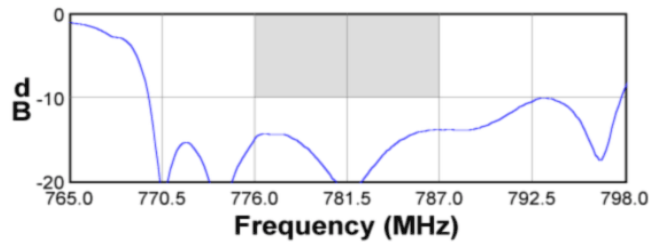
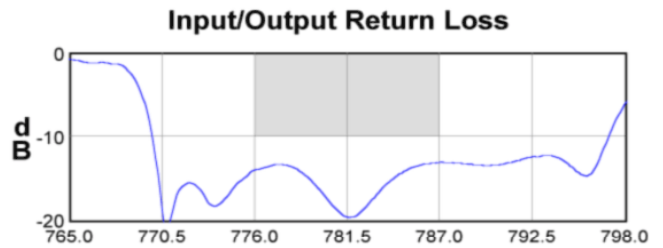
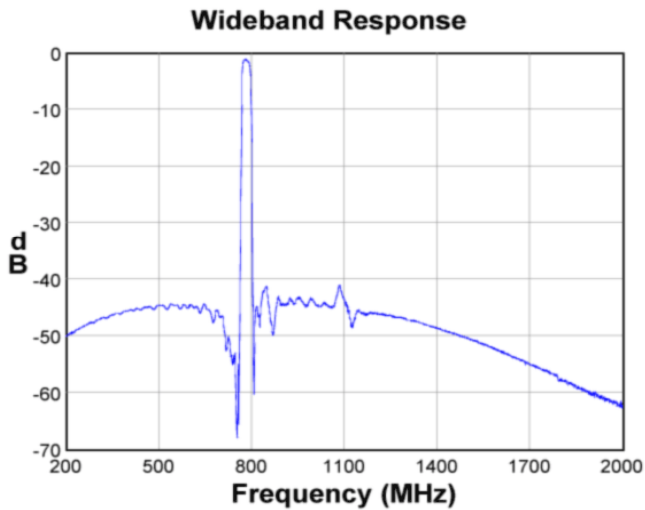
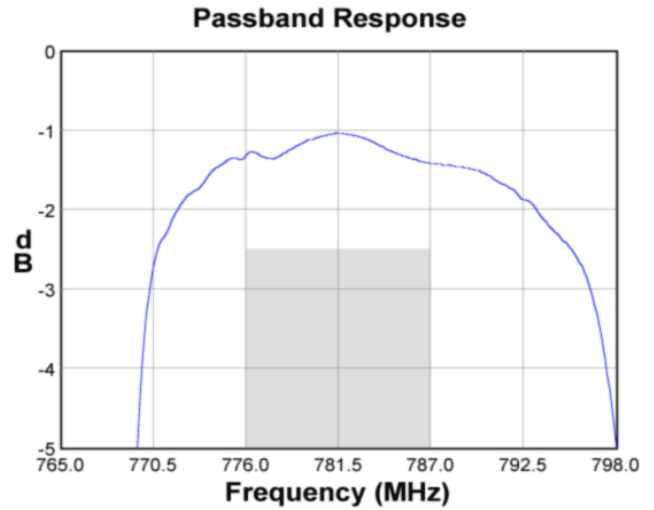
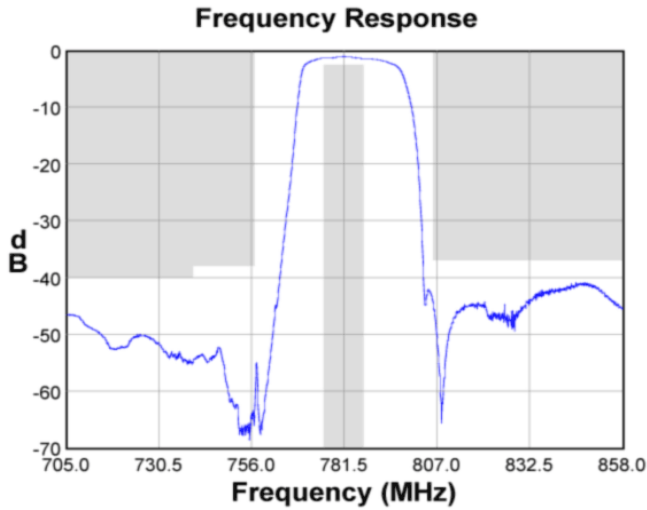
1. All specifications are based on the TriQuint test circuit shown below
2. In production, devices will be tested at room temperature to a guardbanded specification to ensure electrical compliance over temperature
3. Electrical margin has been built into the design to account for the variations due to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

**Test Circuit:**

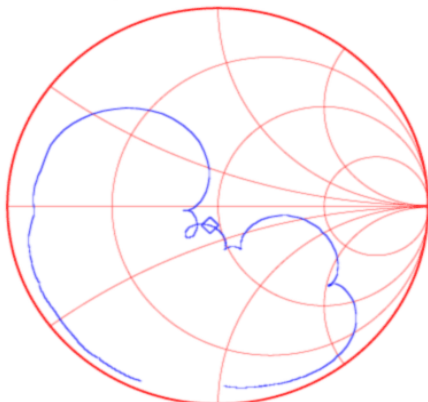
Actual matching values may vary due to PCB layout and parasitics



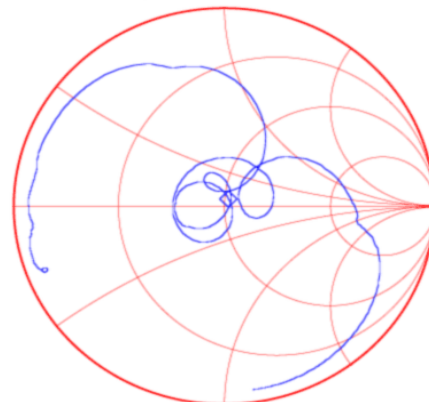
**Typical Performance (at room temperature)**



**Input Smith Chart**



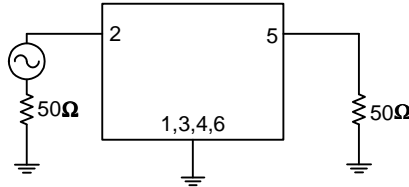
**Output Smith Chart**



**Matching Schematics**

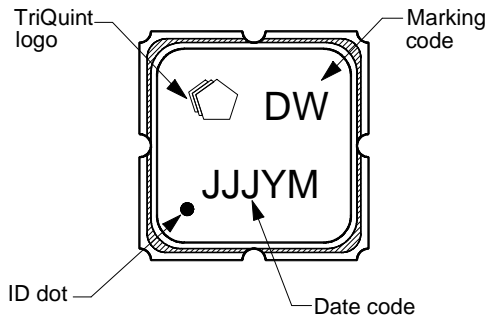
Actual matching values may vary due to PCB layout and parasitics

50  $\Omega$   
Single-ended  
Input



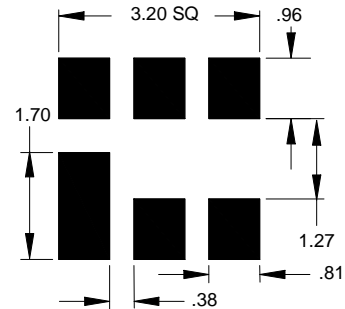
No impedance matching  
required

**Marking**



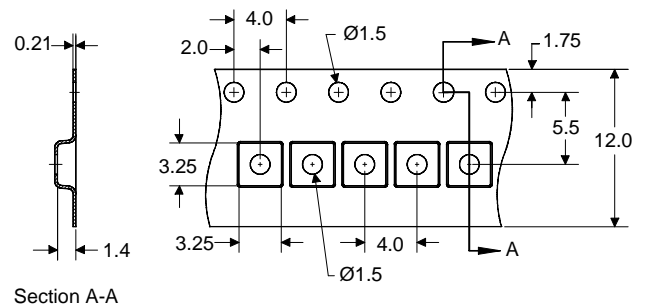
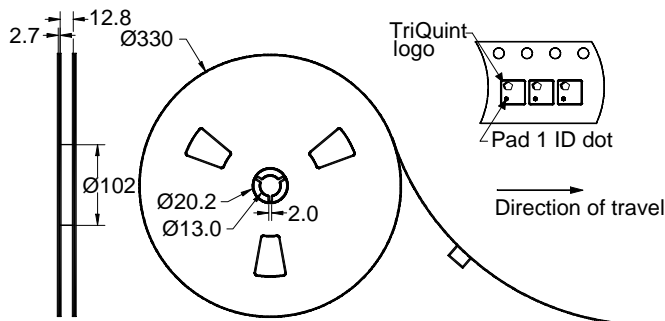
The date code consists of: day of the current year (Julian, 3 digits), Y = last digit of the year and M = manufacturing site code

**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: 5000 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   |
| Input Power                 | P <sub>in</sub>  | -       | +20     | dBm  |

### Important Notes

#### Warnings

- Electrostatic Sensitive Device (ESD) 
- Avoid ultrasonic exposure

#### RoHS Compliance

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

#### Solderability

- Compatible with JESD22-B102, Pb-free process, 260C 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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