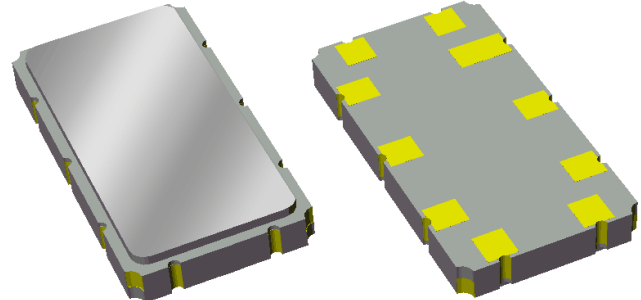


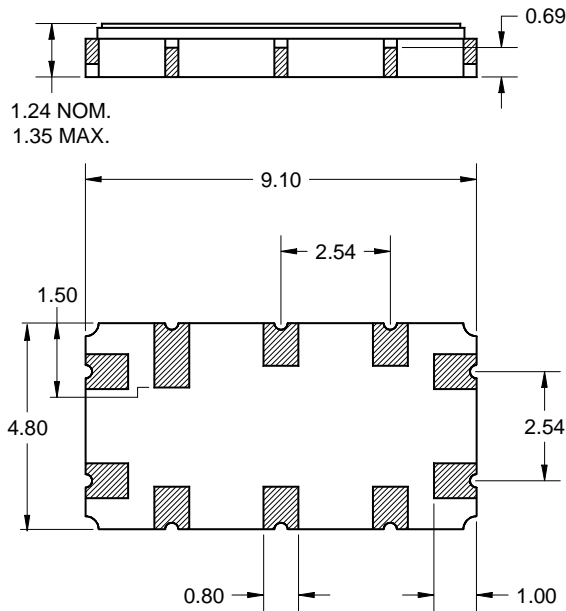
Features

- For multiple applications
- Usable bandwidth 3 MHz
- Low loss
- High attenuation
- Balanced or single-ended operation
- Ceramic Surface Mount Package (SMP)
- Hermetic
- RoHS compliant (2002/95/EC), Pb-free



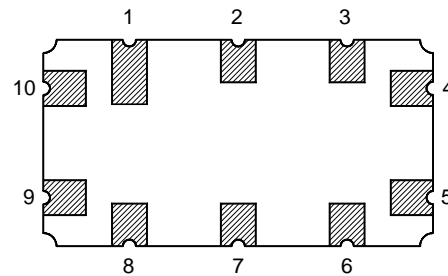
Package

Surface Mount 9.10 x 4.80 x 1.24 mm
SMP-35C



Pin Configuration

Bottom View



| Pin No. Balanced | Description |
|------------------|-------------|
| 9 | Input + |
| 10 | Input - |
| 4 | Output + |
| 5 | Output - |
| 1,2,3,6,7,8 | Case Ground |

| Pin No. Single-Ended | Description |
|----------------------|-------------|
| 9 | Input |
| 10 | Ground |
| 4 | Output |
| 5 | Ground |
| 1,2,3,6,7,8 | Case Ground |

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

Body: Al_2O_3 ceramic
Lid: Kovar, Ni plated
Terminations: Au plating 0.5 - 1.0 μm ,
over a 2 - 6 μm Ni plating

Electrical Specifications ⁽¹⁾

Operating Temperature Range: ⁽²⁾ -40 to +85 °C

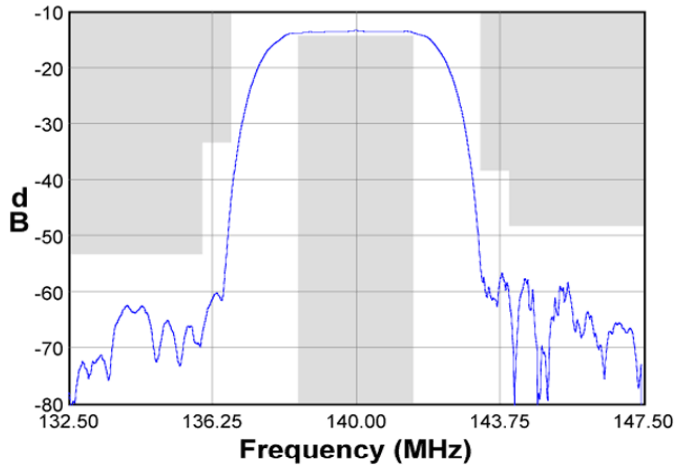
| Parameter ⁽³⁾ | Minimum | Typical ⁽⁵⁾ | Maximum | Unit |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------|-------------------------------------------|----------------------------------------------------|
| Center Frequency | - | 140 | - | MHz |
| Minimum Insertion Loss | - | 13.6 | 16 | dB |
| Amplitude Variation 138.5 – 141.5 MHz | - | 0.4 | 1.0 | dB p-p |
| Phase Linearity 138.8 – 141.2 MHz 138.5 – 141.5 MHz | - - | 2.4 2.5 | 4 6 | ^o p-p ^o p-p |
| Average Group Delay 138.8 – 141.2 MHz | 0.91 | 0.96 | 1.01 | µs |
| Relative Attenuation ⁽⁴⁾ 10 – 118 MHz 118 – 129 MHz 129 – 136 MHz From $f_o \pm 3.25$ MHz to $f_o \pm 3.35$ MHz From $f_o \pm 3.35$ MHz to $f_o \pm 4.0$ MHz 144 – 157 MHz 157 – 162 MHz 162 – 171 MHz 171 – 280 MHz | 45 40 40 20 25 35 40 40 40 | 60 56 47 32 41 46 57 59 53 | - - - - - - - - - | dB dB dB dB dB dB dB dB dB |
| Triple Transit Suppression | 35 | 44 | - | dB |
| Source Impedance (balanced or single-ended) ⁽⁶⁾ | - | 50 | - | Ω |
| Load Impedance (balanced or single-ended) ⁽⁶⁾ | - | 50 | - | Ω |

Notes:

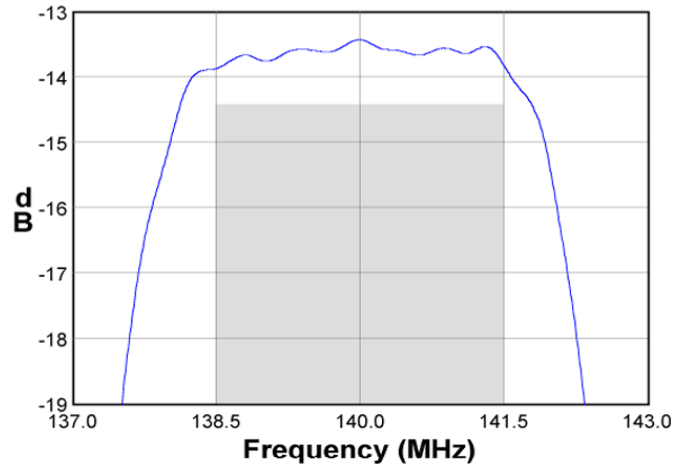
1. All specifications are based on the TriQuint matching schematics shown on page 4
2. In production, devices will be tested at room temperature to a guardbanded specification to ensure electrical compliance over temperature
3. Electrical margin has been built into the design to account for the variations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

Typical Performance (at room temperature)

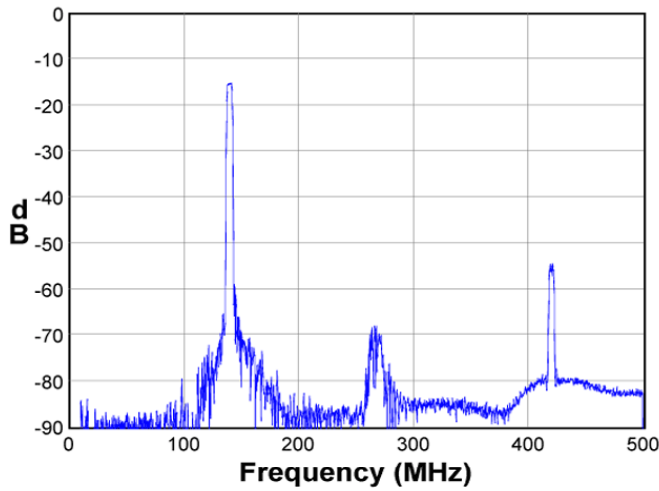
Frequency Response



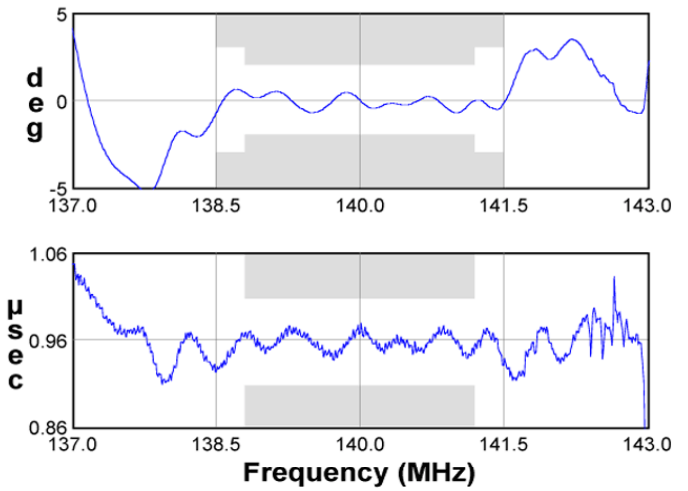
Passband Response



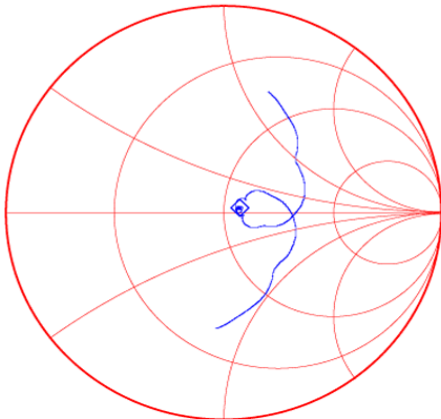
Wideband Response



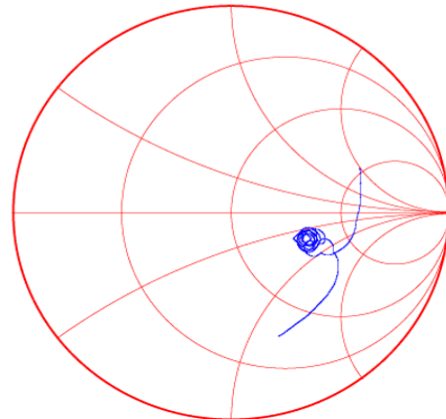
Phase / Group Delay



Input Smith Chart

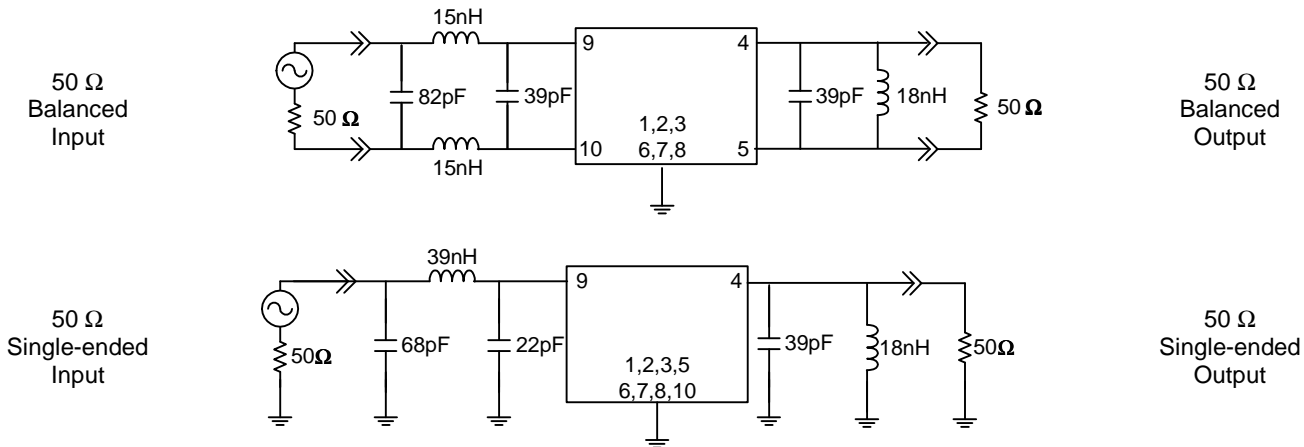


Output Smith Chart



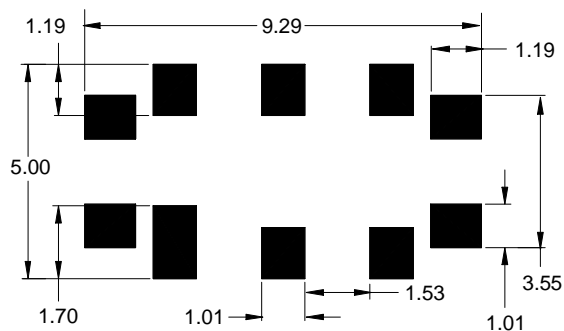
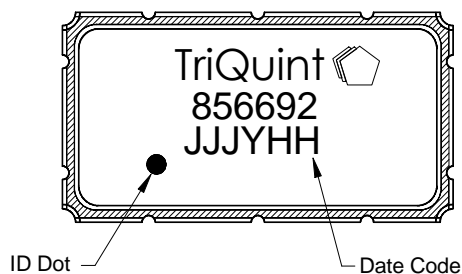
Matching Schematics

Actual matching values may vary due to PCB layout and parasitics



Marking

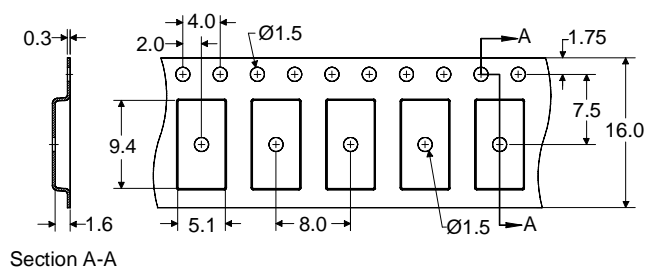
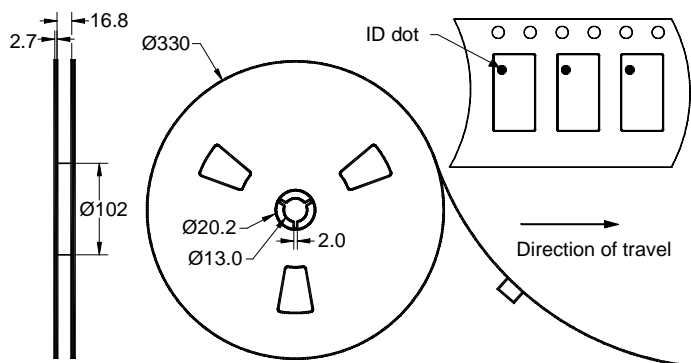
PCB Footprint



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

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

Tape and Reel




Dimensions shown are nominal in millimeters
Packaging quantity: 4000 units/reel

Maximum Ratings


| Parameter | Symbol | Minimum | Maximum | Unit |
|-----------------------------|-------------------|---------|---------|--------|
| Operating Temperature Range | T | -40 | +85 | °C |
| Storage Temperature Range | T _{stg} | -55 | +125 | °C |
| Pyroelectric Voltage | V _{Pyro} | - | 50 | mV p-p |
| Input Power | P _{in} | - | +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 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](#)

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