
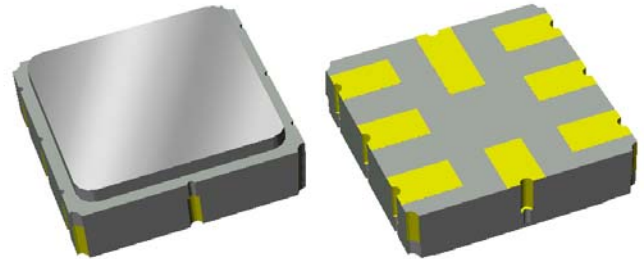


Data Sheet

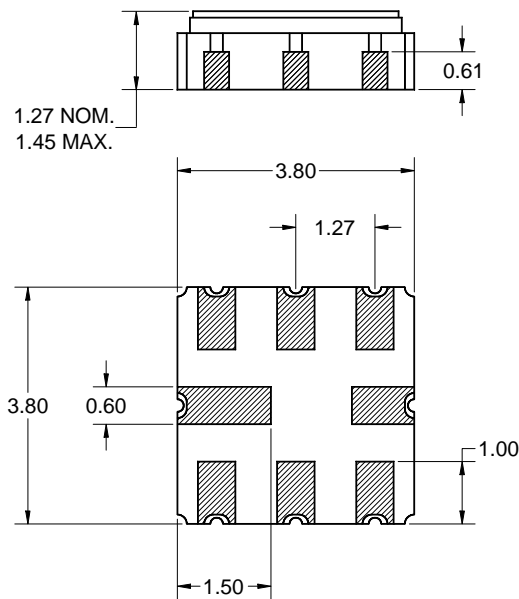
Features

- For cable tuner applications
- Usable bandwidth of 10 MHz
- Low loss
- High attenuation
- Balanced operation
- Ceramic Surface Mount Package (SMP)
- Small size
- **RoHS** compliant (2002/95/EC), **Pb-free** 



Package

Surface Mount 3.80 x 3.80 x 1.27 mm
SMP-15

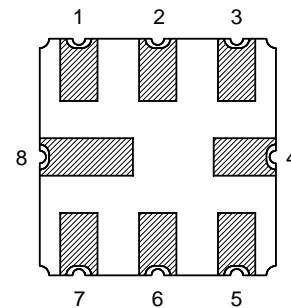


Dimensions shown are nominal in millimeters
All tolerances are ± 0.15 mm except overall
length and width ± 0.10 mm

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

Pin Configuration

Bottom View



Pin No.	Description
1	Input
2	Input return
5	Output
6	Output return
3,4,7,8	Case ground

Data Sheet

Electrical Specifications ⁽¹⁾

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

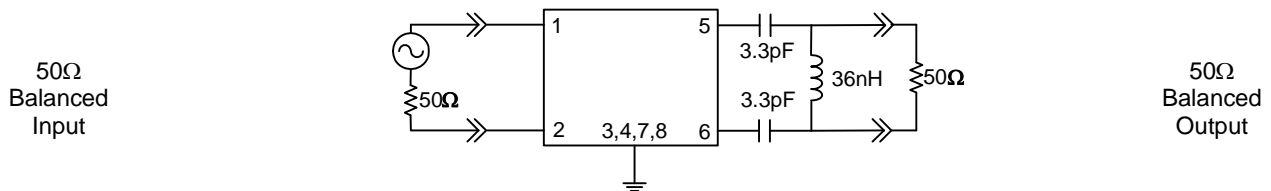
Parameter ⁽³⁾	Minimum	Typical ⁽⁴⁾	Maximum	Unit
Center Frequency, f_0	-	1090	-	MHz
Maximum Insertion Loss ⁽⁵⁾ 1085 - 1095 MHz	-	5.6	6.3	dB
Lower 1.25 dB Bandedge ⁽⁶⁾ Upper 1.25 dB Bandedge ⁽⁶⁾	- 1095	1075 1103	1085 -	MHz MHz
Absolute Attenuation ⁽⁷⁾ 500 - 1006 MHz 1006 - 1050 MHz 1140 - 1160 MHz 1160 - 1600 MHz	55 50 50 55	62 52 62 58	- - - -	dB dB dB dB
Amplitude Variation ⁽⁸⁾ 1085 - 1095 MHz	-	0.3	1.25	dB
Group Delay Ripple ⁽⁸⁾ 1085 - 1095 MHz	-	4.5	20	nsec
Source Impedance ⁽⁹⁾	-	50	-	Ω
Load Impedance ⁽⁹⁾	-	50	-	Ω

Notes:

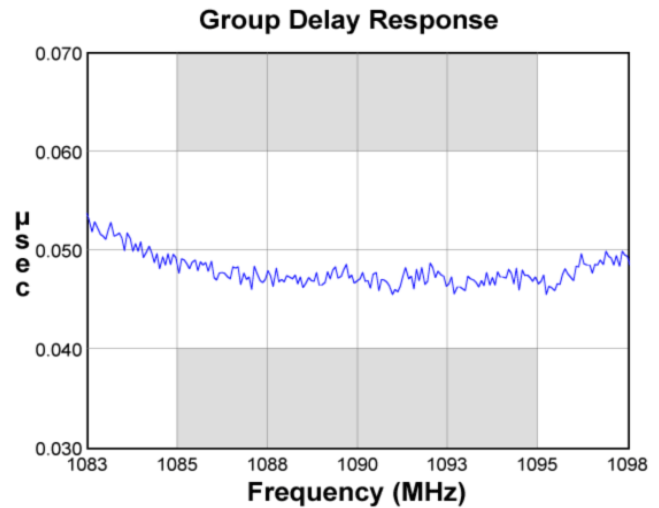
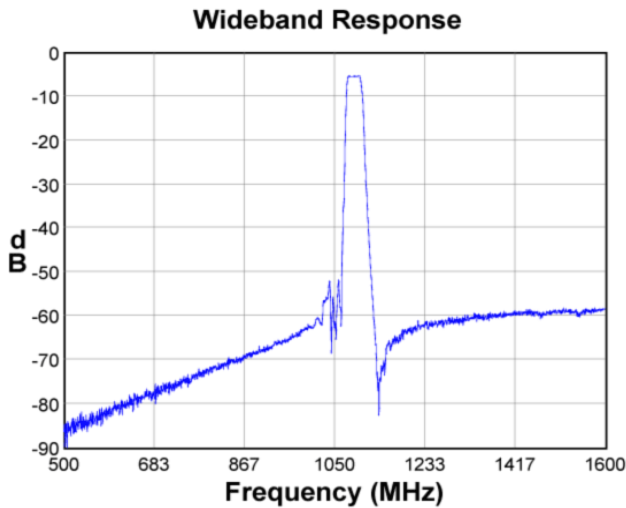
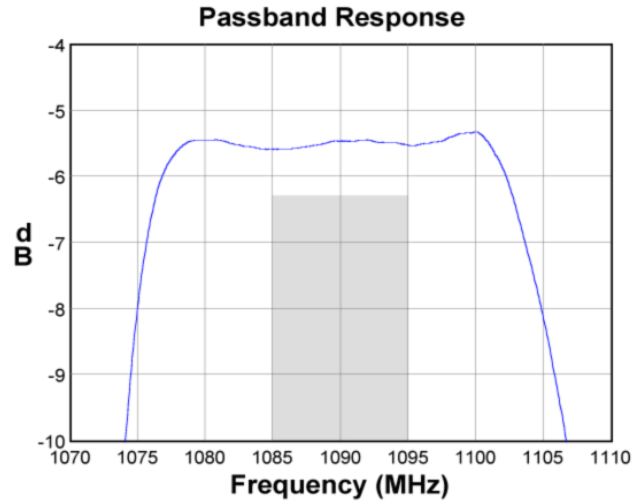
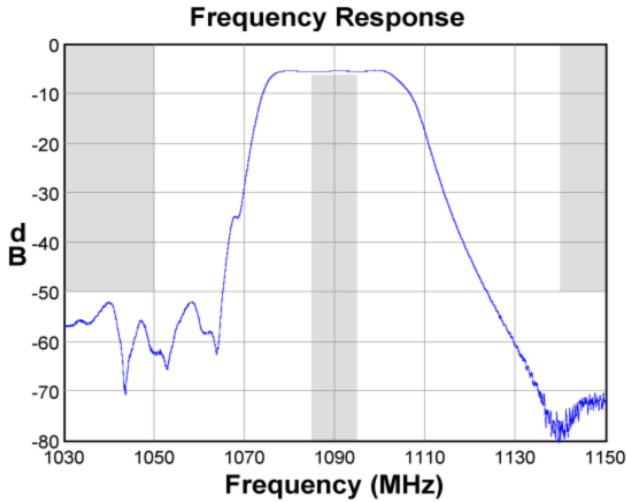
- All specifications are based on TriQuint test circuit shown below
- In production, devices will be tested at room temperature to a guardbanded specification to ensure electrical compliance over temperature
- Electrical margin has been built into the design to account for the variations due to temperature drift and manufacturing tolerances
- Typical values are based on average measurements at room temperature
- Referenced to maximum loss within the specified frequency points
- Relative to insertion loss at center frequency
- Absolute Attenuation measurements are referenced to zero dB
- Total variation over the defined frequency range
- This is the optimum impedance in order to achieve the performance shown

Test Circuit:

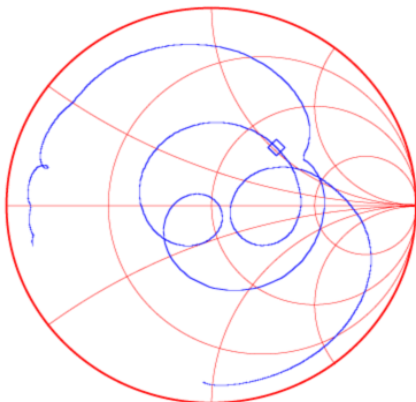
Actual matching values may vary due to PCB layout and parasitics



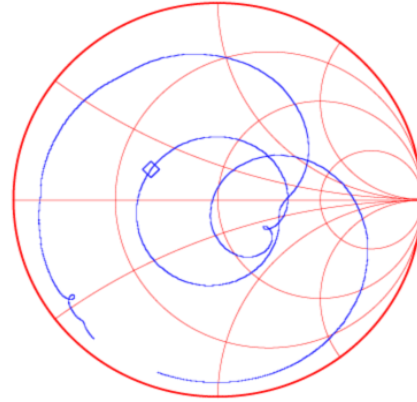
Typical Performance (at +25°C)



Input Smith Chart



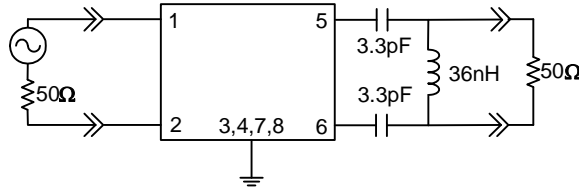
Output Smith Chart



Matching Schematics

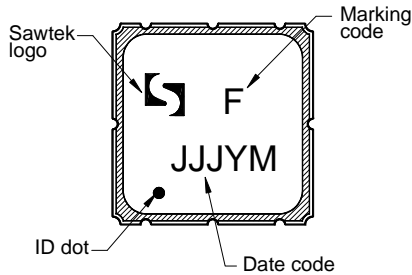
Actual matching values may vary due to PCB layout and parasitics

50Ω
Balanced
Input



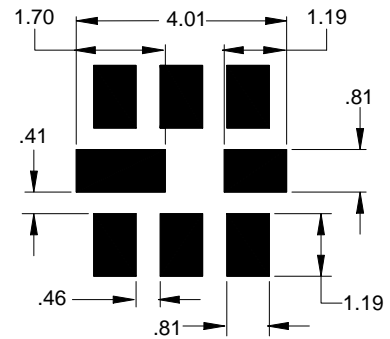
50Ω
Balanced
Output

Marking



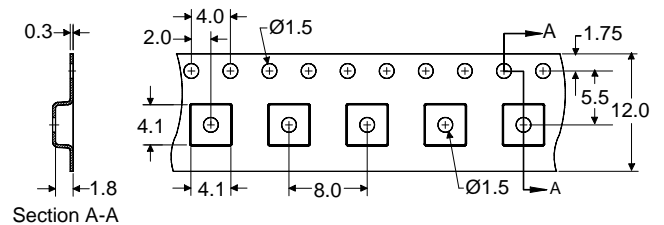
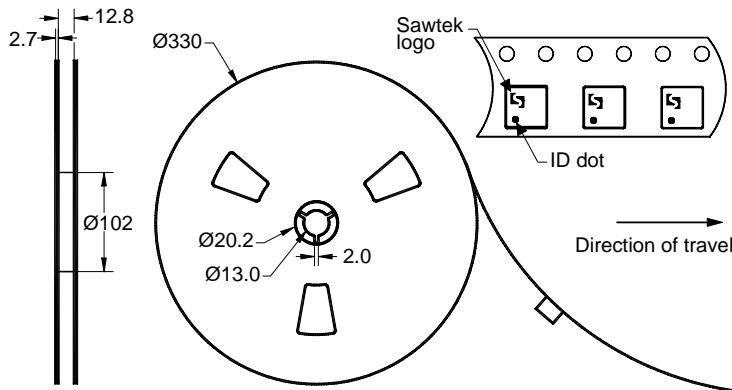
The date code consists of: day of the current year (Julian, 3 digits), last digit of the year (1 digit) and M = manufacturing site code

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: 4000 units/reel


Data Sheet

Maximum Ratings


Parameter	Symbol	Minimum	Maximum	Unit
Operating Temperature Range	T	-40	+85	°C
Storage Temperature Range	T _{stg}	-40	+85	°C

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](#)

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Contact Information



PO Box 609501
Orlando, FL 32860-9501
USA

Phone: +1 (407) 886-8860
Fax: +1 (407) 886-7061
Email: info-product@tqs.com
Web: www.triquint.com

Or contact one of our worldwide
Network of [sales offices](#),
[Representatives or distributors](#)