
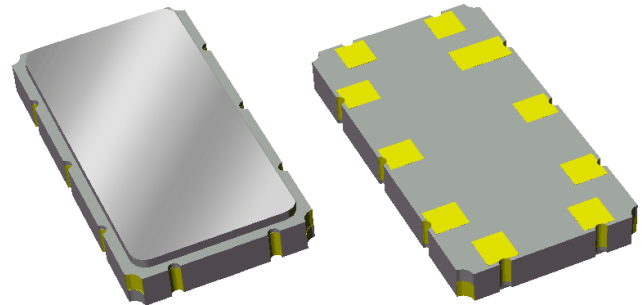


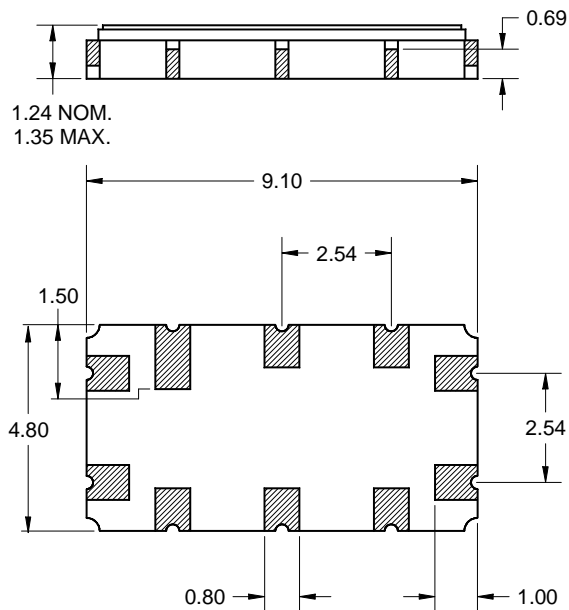
Features

- For multiple applications
- Usable bandwidth 10 MHz
- Low loss
- High attenuation
- Balanced operation
- Ceramic Surface Mount Package (SMP)
- Hermetic
- RoHS compliant (2002/95/EC), Pb-free 



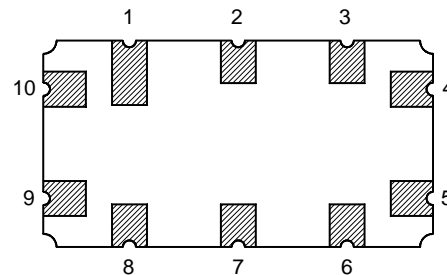
Package

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



Pin Configuration

Bottom View



Pin No.	Description
9	Input +
10	Input -
4	Output +
5	Output -
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	-	10	11.5	dB
Amplitude Variation 135 – 145 MHz	-	0.4	0.9	dB p-p
Phase Linearity 136 – 144 MHz 135 – 145 MHz	- -	2.0 2.2	6 8	^o p-p ^o p-p
Average Group Delay 135 – 145 MHz	0.72	0.77	0.82	µs
Relative Attenuation ⁽⁴⁾ 10 – 116 MHz 116 – 125 MHz 125 – 127.5 MHz 152.5 – 158 MHz 158 – 177 MHz 177 – 280 MHz	48 40 33 31 35 40	52 45 41 41 45 50	- - - - - -	dB dB dB dB dB dB
Triple Transit Suppression	30	45	-	dB
Source Impedance (balanced) ⁽⁶⁾	-	50	-	Ω
Load Impedance (balanced) ⁽⁶⁾	-	50	-	Ω

Notes:

1. All specifications are based on the TriQuint matching schematic shown on page 5
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

Electrical Specifications ⁽¹⁾

Operating Temperature Range: ⁽²⁾ -20 to +85 °C

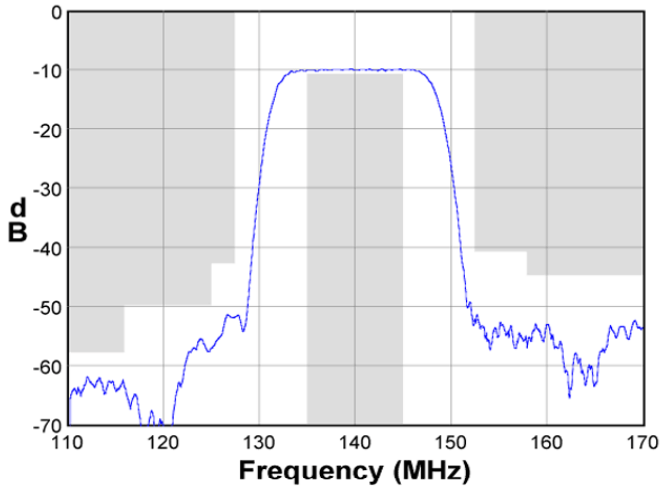
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Notes:

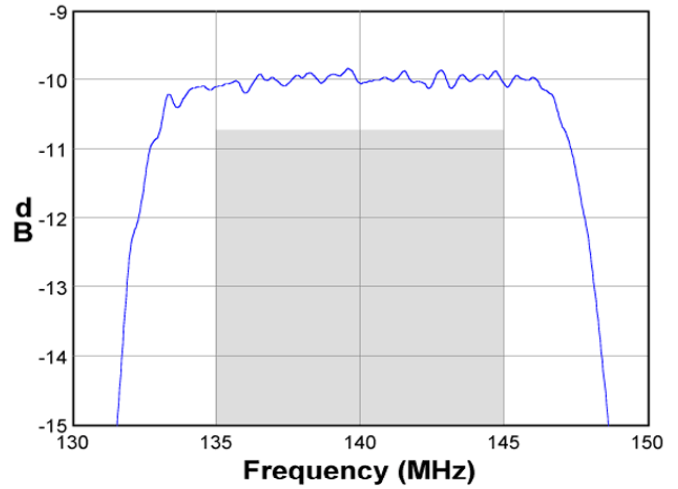
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3. Electrical margin has been built into the design to account for the variations due to temperature drift and manufacturing tolerances
4. Relative to minimum insertion loss
5. Typical values are based on average measurements at room temperature
6. This is the optimum impedance in order to achieve the performance shown

Typical Performance (at room temperature)

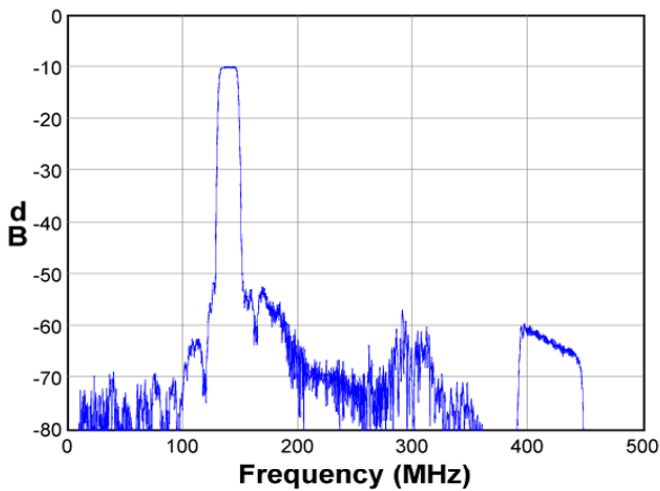
Frequency Response



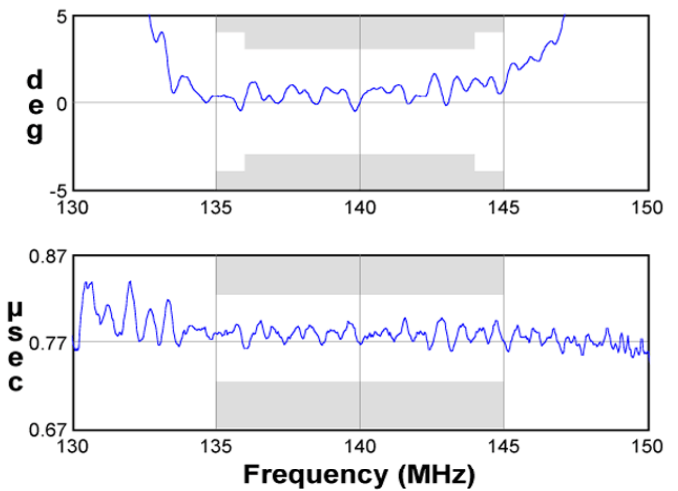
Passband Response



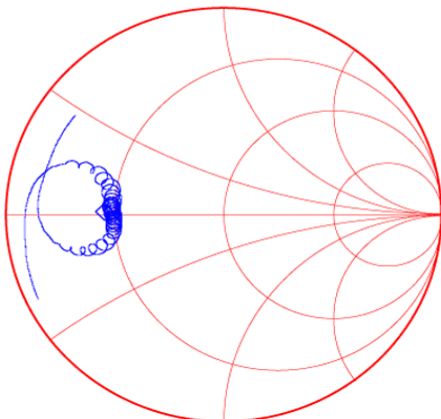
Wideband Response



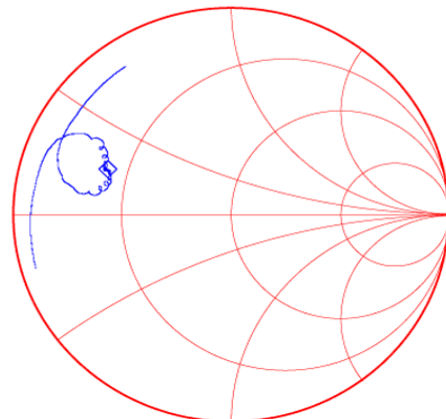
Phase / Group Delay



Input Smith Chart

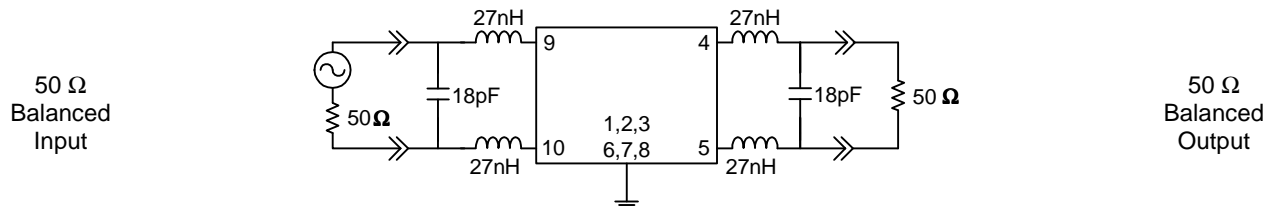


Output Smith Chart

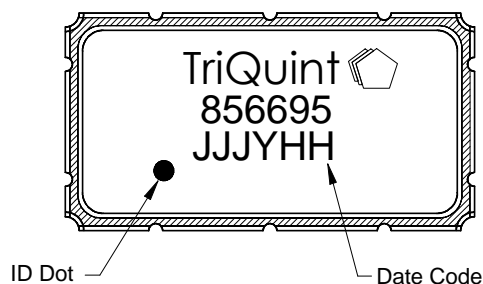


Matching Schematic

Actual matching values may vary due to PCB layout and parasitics

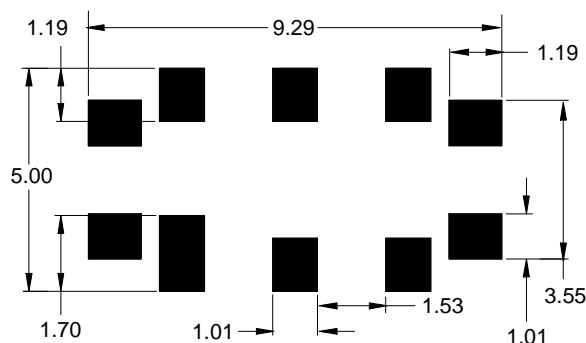


Marking



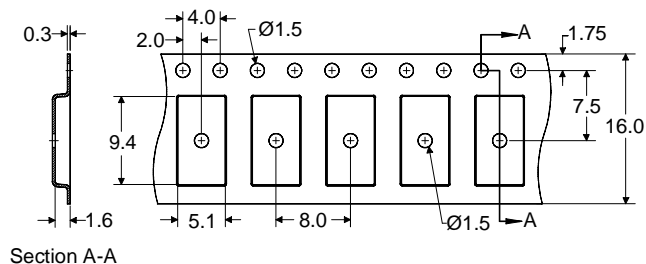
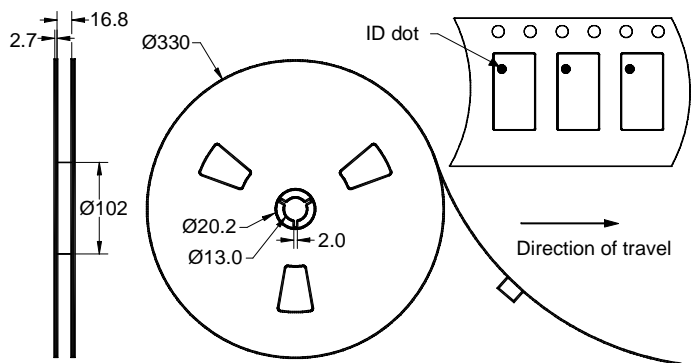
The date code consists of: day of the current year (Julian, 3 digits), last digit of the year (1 digit) and hour (2 digits)

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: 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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Contact Information

TriQuint 
SEMICONDUCTOR
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](#),
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