
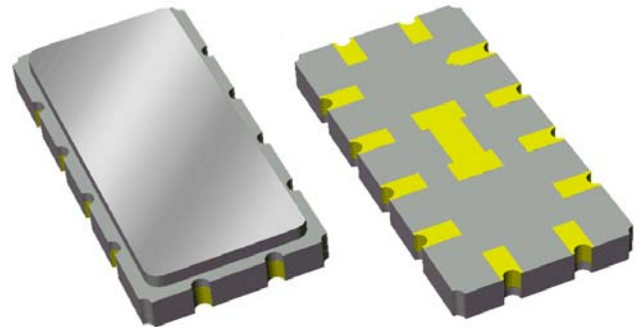


Data Sheet

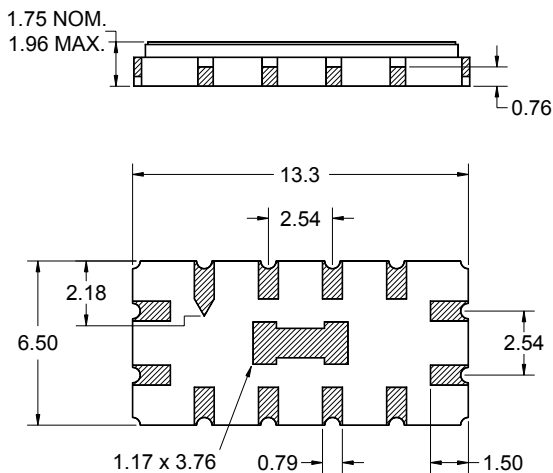
Features

- For multiple applications
- Usable bandwidth of 10 MHz
- Typical 3 dB bandwidth of 10.59 MHz
- Low loss
- High attenuation
- Single-ended operation
- Ceramic Surface Mount Package (SMP)
- Hermetic
- RoHS compliant (2002/95/EC), Pb-free 



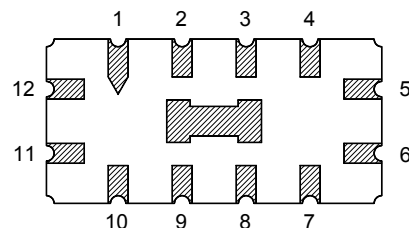
Package

Surface Mount 13.30 x 6.50 x 1.75 mm
SMP-53A



Pin Configuration

Bottom View



Pin No.	Description
5	Output
11	Input
1,2,3,4,6	Case ground
7,8,9,10,12	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

Data Sheet

Electrical Specifications ⁽¹⁾

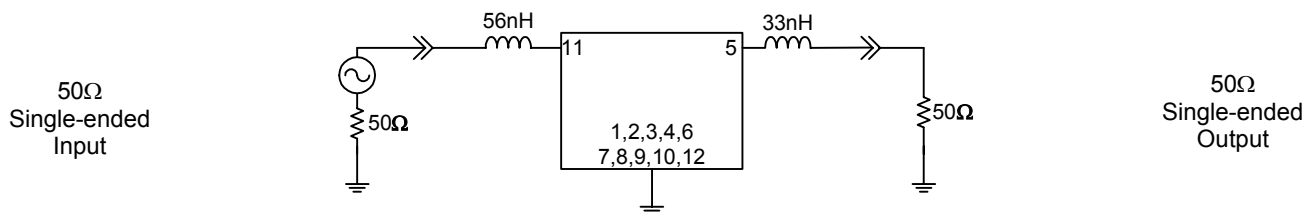
Specifications at ambient temperature (+25 °C)

Parameter	Minimum	Typical	Maximum	Unit
Center Frequency	139.6	140	140.4	MHz
Insertion Loss at 140 MHz	-	8.3	10	dB
1 dB Bandwidth	9.1	9.6	-	MHz
3 dB Bandwidth	10	10.59	-	MHz
35 dB Bandwidth	-	13.9	14	MHz
Passband Ripple 136 - 144 MHz	-	0.4	1.0	dB
Phase Linearity 136 - 144 MHz	-	9	15	deg
Group Delay Variation 136 - 144 MHz	-	50	120	nsec
Absolute Group Delay	-	1.062	-	μsec
Temperature Shift	-	-94	-	ppm/°C
Source Impedance ⁽²⁾	-	50	-	Ω
Load Impedance ⁽²⁾	-	50	-	Ω

Notes:

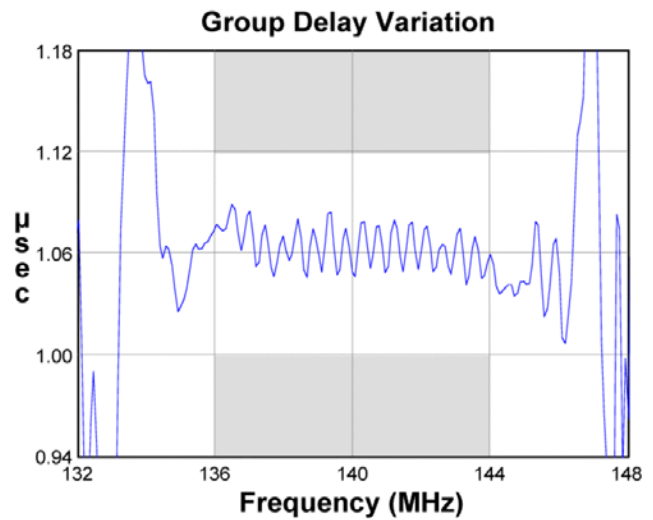
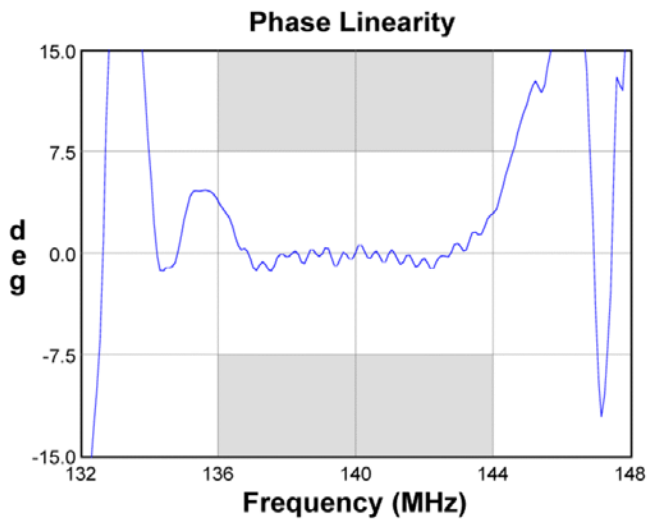
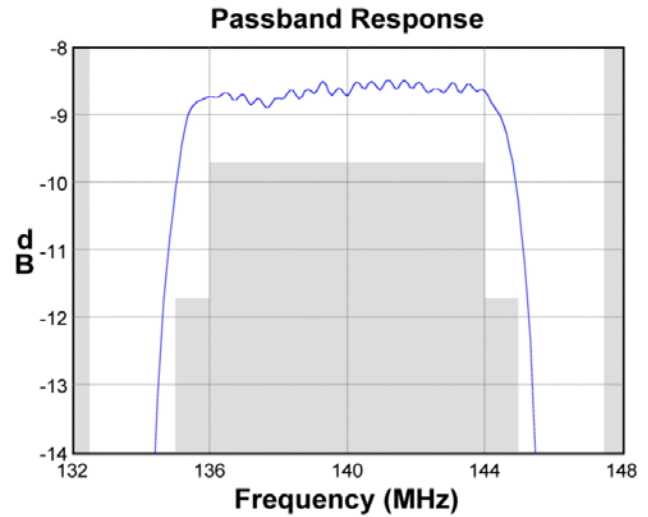
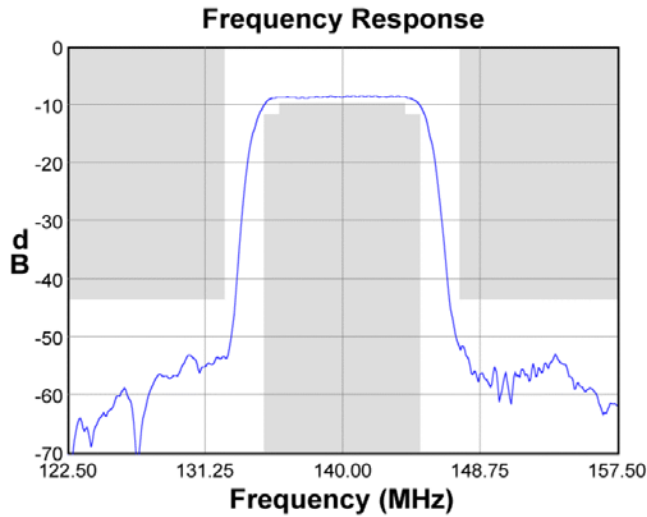
1. All specifications are based on Triquint test circuit shown below
2. This is the optimum impedance in order to achieve the performance shown

Test Circuit:

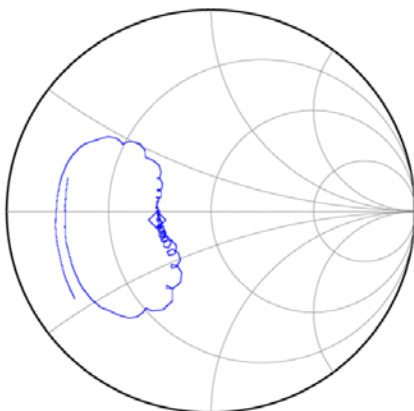


Data Sheet

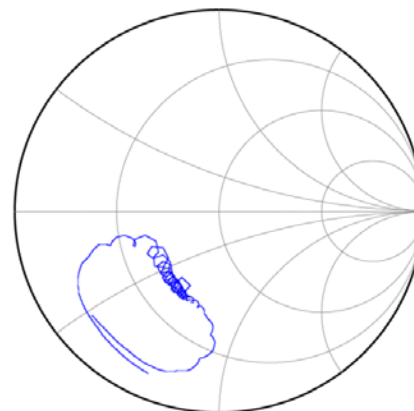
Typical Performance (at +25°C)



Input Smith Chart



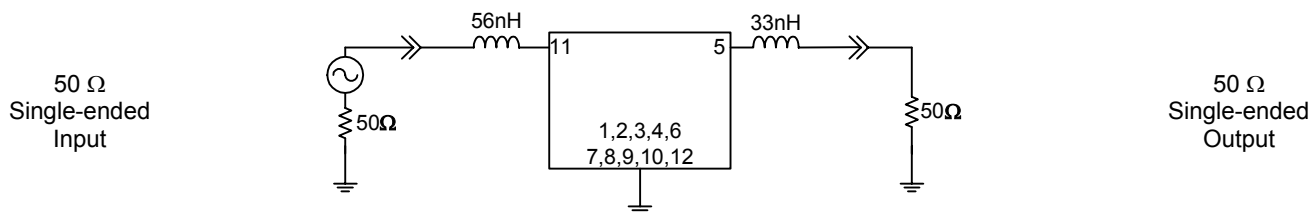
Output Smith Chart



Data Sheet

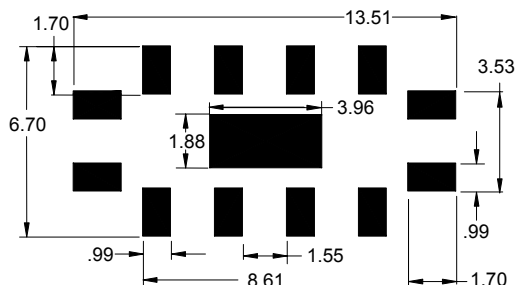
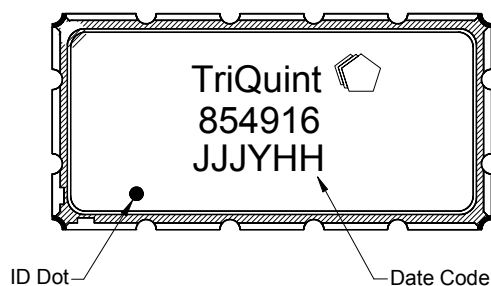
Matching Schematics

Actual matching values may vary due to PCB layout and parasitics



Marking

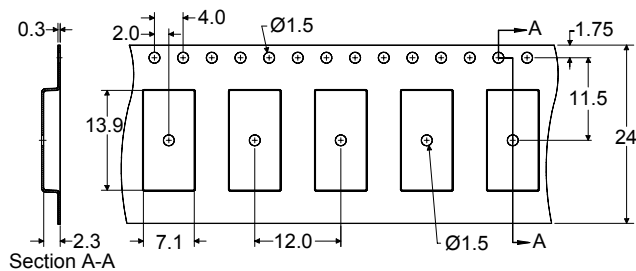
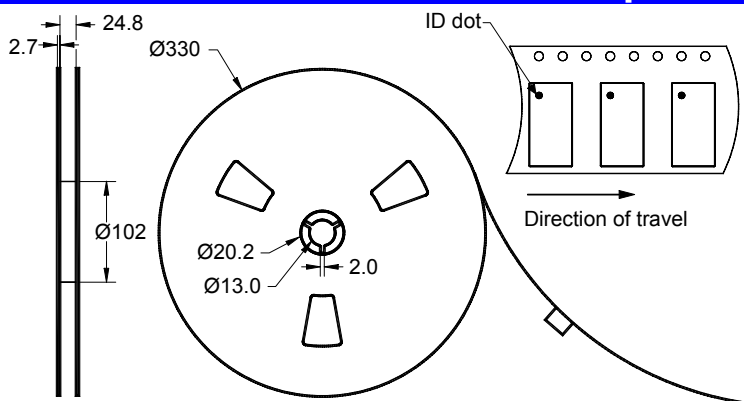
PCB Footprint



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: 2000 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
ESD HBM (per JESD22-A114)	V _{ESD}	200	-	V
ESD MM (per JESD22-A115)	V _{ESD}	150	-	V

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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