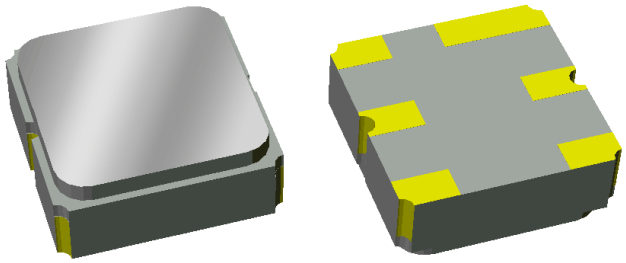
TriQuint SEMICONDUCTOR

Data Sheet

Part Number 856928
1445.4 MHz SAW Filter

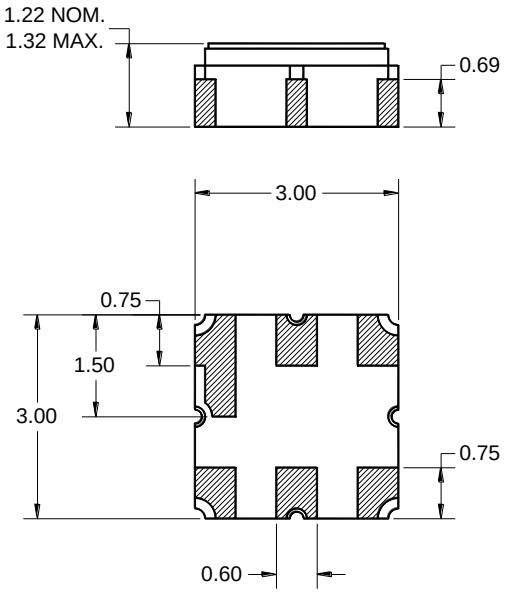
Features

- For Base Stations applications
- Usable bandwidth 35 MHz
- Low loss
- Single-ended operation
- Ceramic Surface Mount Package (SMP)
- Small Size
- Hermetic
- **RoHS** compliant (2002/95/EC), **Pb**-free

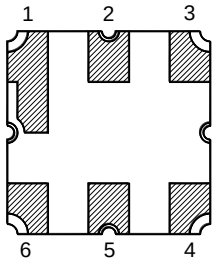


Pin Configuration

Surface Mount 3.00 x 3.00 x 1.22 mm
SMP-12



Bottom View



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

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

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

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Electrical Specifications [1] [2]

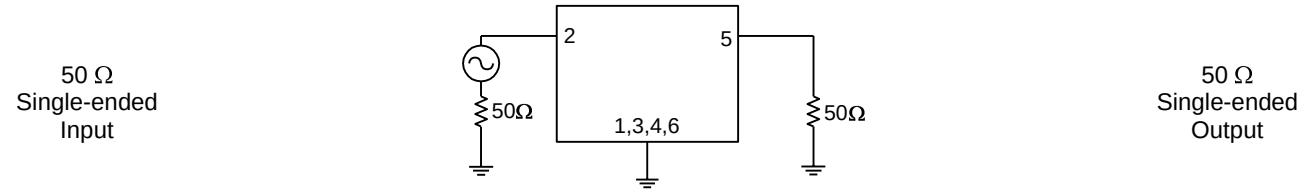
Operated Temperature Range: [3] -30 to +85 °C

Parameter [4]	Minimum	Typical [5]	Maximum	Unit
Center Frequency	-	1445.4	-	MHz
Maximum Insertion Loss				
1427.9 – 1462.9 MHz	-	1.25	2.5	dB
Amplitude Variation				
1427.9 – 1462.9 MHz	-	0.4	1.2	dB p-p
1427.9 – 1462.9 MHz (Over any 5 MHz range)	-	0.3	0.8	dB p-p
VSWR				
1427.9 – 1462.9 MHz	-	1.7	2	-
Phase Ripple				
1427.9 – 1462.9 MHz	-	12.0	35	deg
Absolute Delay				
1427.9 – 1462.9 MHz	-	14.0	35	ns
Group Delay Variation				
1427.9 – 1462.9 MHz	-	11.0	30	ns p-p
Relative Attenuation [6]				
60 – 120 MHz	30	41.6	-	dB
300 – 500 MHz	24	30.0	-	dB
1240 – 1280 MHz	24	28.5	-	dB
1390 – 1407.9 MHz	10	16.9	-	dB
1495.9 – 1521 MHz	20	23.3	-	dB
1600 – 1710 MHz	25	31.2	-	dB
2140 – 2180 MHz	32	38.8	-	dB
3200 – 4000 MHz	5	8.3	-	dB
Source Impedance (single-ended) [7]	-	50	-	Ω
Load Impedance (single-ended) [7]	-	50	-	Ω

Notes:
1. All target specifications are based on TriQuint test circuit shown below
2. All target specifications represent a design goal and not a guarantee until the design is finalized and a datasheet is issued
3. In production, devices will be tested at room temperature to a guardbanded specification to ensure electrical compliance over temperature
4. Electrical margin has been built into the design to account for the variations due to temperature drift and manufacturing tolerances
5. Typical values are based on average measurements at room temperature
6. Attenuation relative to Maximum Insertion Loss
7. This is the optimum impedance In order to achieve the performance shown

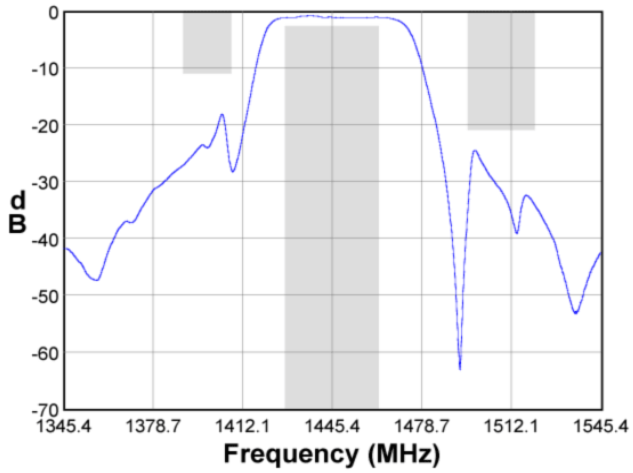
Test Circuit:

Actual matching values may vary due to PCB layout and parasitics

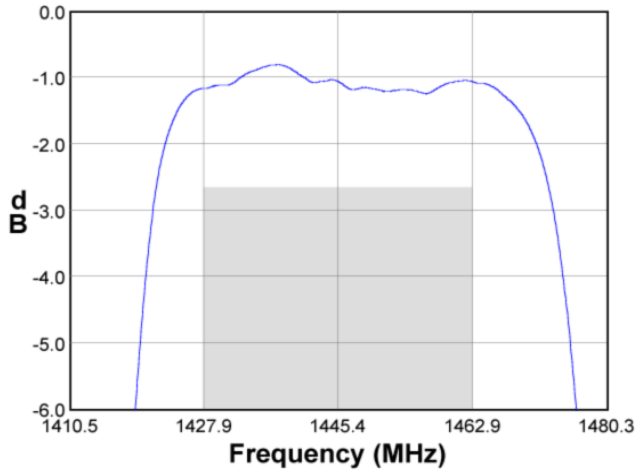


Typical Performance (at +25°C)

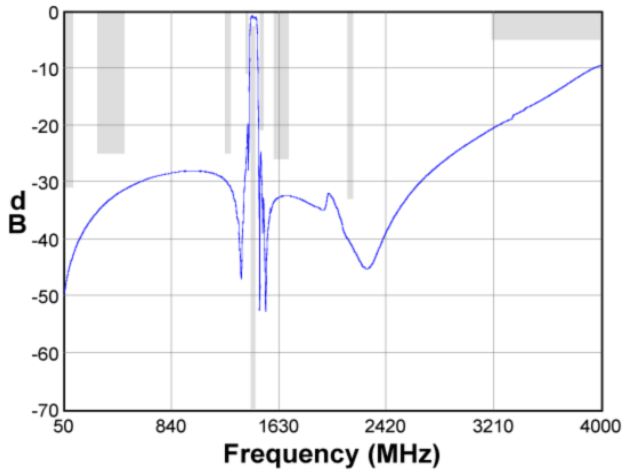
Frequency Response



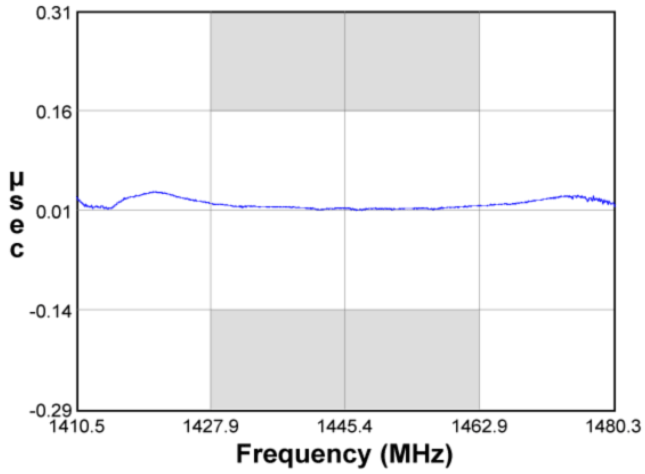
Passband Response



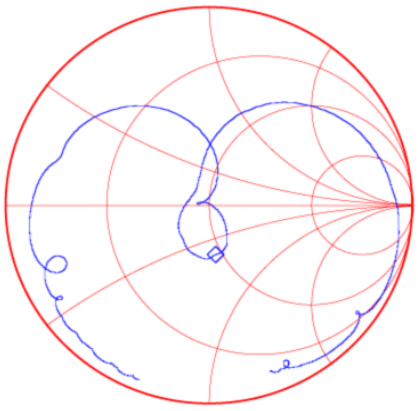
Wideband Response



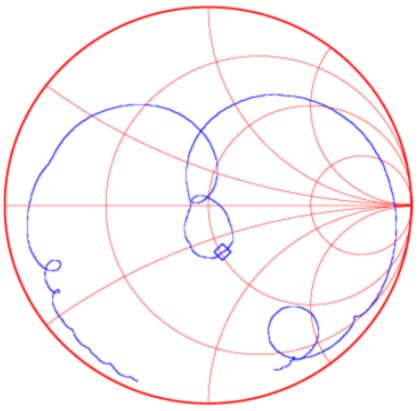
Group Delay Response



Input Smith Chart



Output Smith Chart



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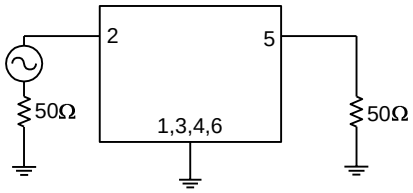
Matching Schematics

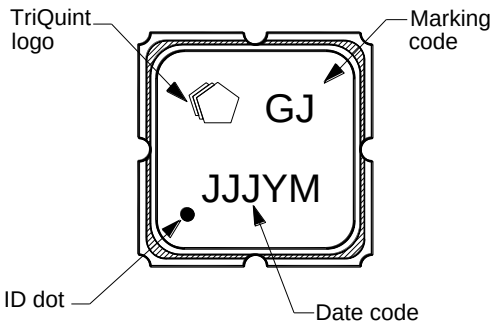
Actual matching values may vary due to PCB layout and parasitics

50 Ω
Single-ended
Input



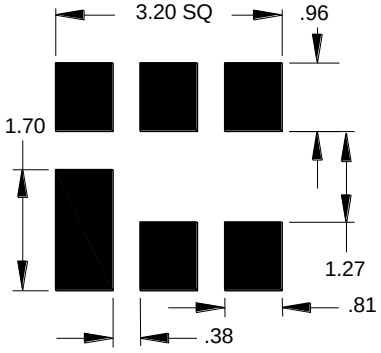
50 Ω
Single-ended
Output

Marking



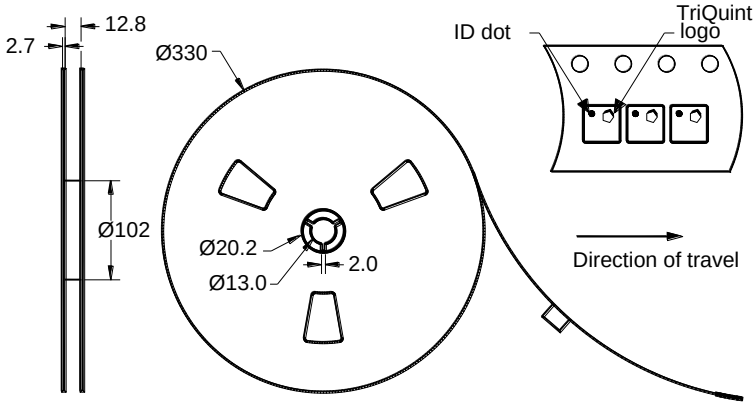
The date code consists of: day of the current year (Julian, 3 digits), Y = last digit of the year and M = manufacturing site code

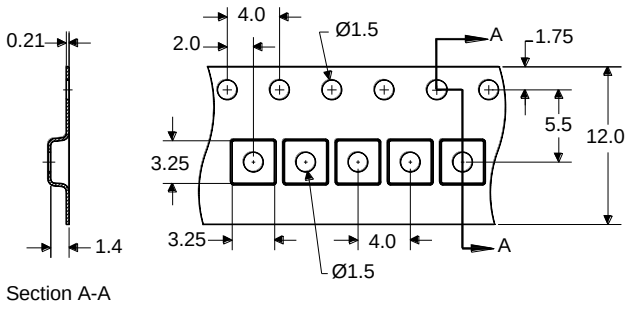
PCB Footprint



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

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Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Unit
Operating Temperature Range	T	-30	+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 JEDEC J-STD-020C **Pb**-free process, **260°C** peak reflow temperature

Links to Additional Technical Information

PCB Layout Tips | Qualification Flowchart | Soldering Profile

S-Parameters | RoHS Information | Other Technical Information

Contact Information

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