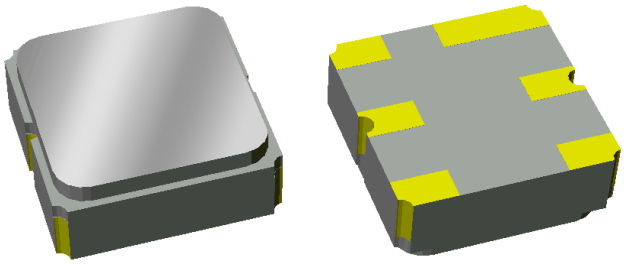
TriQuint SEMICONDUCTOR

Data Sheet

Part Number 856824
897.5 MHz SAW Filter

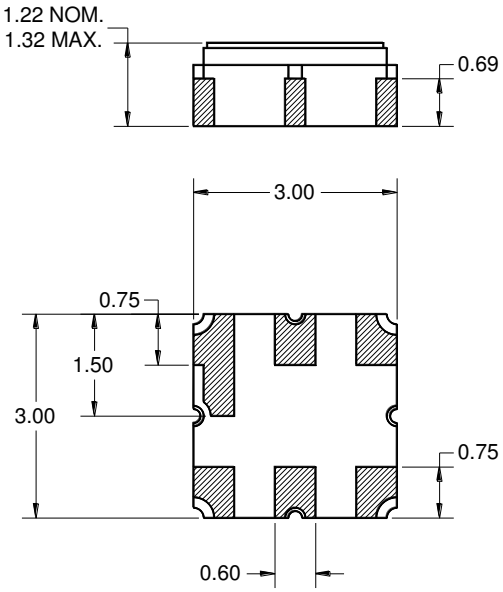
Features

- For Base Station applications
- Usable bandwidth 35 MHz
- For Base Station applications
- Low loss
- Single-ended operation
- No impedance matching for operation at 50 Ω
- Ceramic Surface Mount Package (SMP)
- Hermetic
- **RoHS** compliant (2002/95/EC), **Pb**-free



Package

Surface Mount 3.00 x 3.00 x 1.22 mm

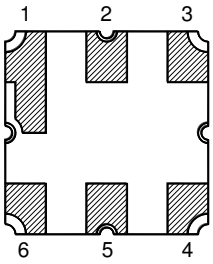


Dimensions shown are nominal in millimeters
All tolerances are ±0.15mm except overall length and width ±0.10mm

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

Pin Configuration

Bottom View



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

Electrical Specifications [1]

Operating Temperature Range: [2] -30 to +85 °C

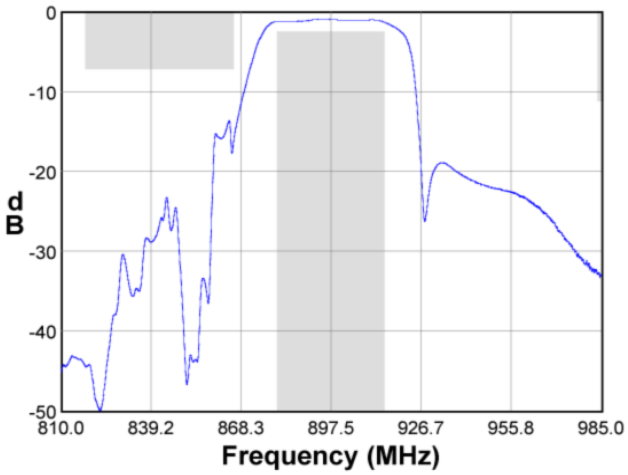
Parameter [3]	Minimum	Typical [4]	Maximum	Unit
Center Frequency	-	897.5	-	MHz
Minimum Insertion Loss				
880 – 915 MHz	-	1.4	2.5	dB
Amplitude Variation				
880 – 915 MHz	-	0.5	1.6	dB p-p
Amplitude Variation(over any 5 MHz band)				
880 – 915 MHz	-	0.35	0.8	dB p-p
Phase Ripple				
880 – 915 MHz	-	12.0	25	degree
Absolute Group Delay	-			
880 – 915 MHz		20.0	35	nsec
Group Delay Variation	-			
880 – 915 MHz		13.0	25	nsec
Input Return Loss				
880 – 915 MHz	9.5	12.4	-	dB
Output Return Loss				
880 – 915 MHz	9.5	12.8	-	dB
Relative Attenuation [5]				
180 – 220 MHz	20	43.0	-	dB
440 – 458 MHz	25	39.0	-	dB
656 – 695 MHz	20	36.0	-	dB
695 – 735 MHz	25	34.0	-	dB
735 – 738 MHz	20	43.0	-	dB
738 – 773 MHz	29	38.0	-	dB
818 – 866 MHz	6	11.0	-	dB
984 – 1227 MHz	10	31.0	-	dB
1296 – 1331 MHz	35	39.0	-	dB
1596 – 1632 MHz	37	48.0	-	dB
1968 – 2454 MHz	30	42.0	-	dB
3056 – 3577 MHz	18	24.0	-	dB
Source Impedance (single-ended) [6]	-	50	-	Ω
Load Impedance (single-ended) [6]	-	50	-	Ω

Notes:

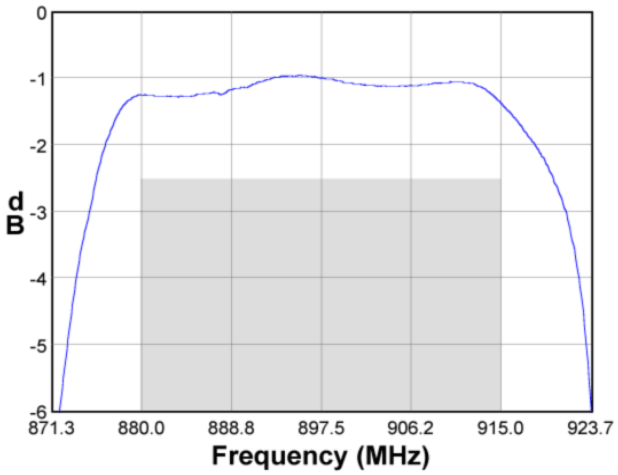
1. All specifications are based on TriQuint test circuit shown on page 4
2. In production, devices will be tested at room temperature to a guardbanded specification to ensure electrical compliance over temperature
3. Electrical margin has been built into the design to account for the variations due to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

Typical Performance (at +25°C)

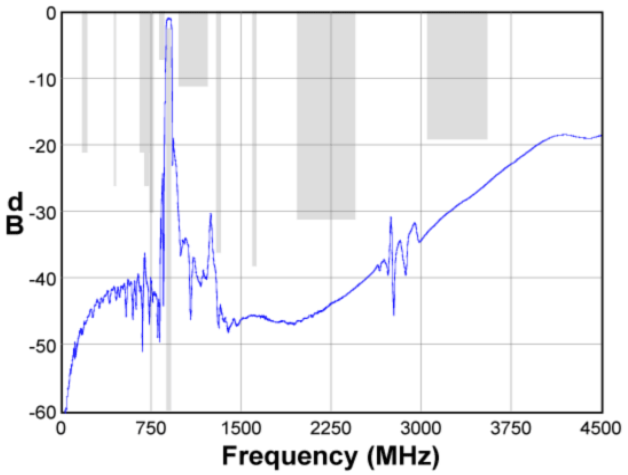
Frequency Response



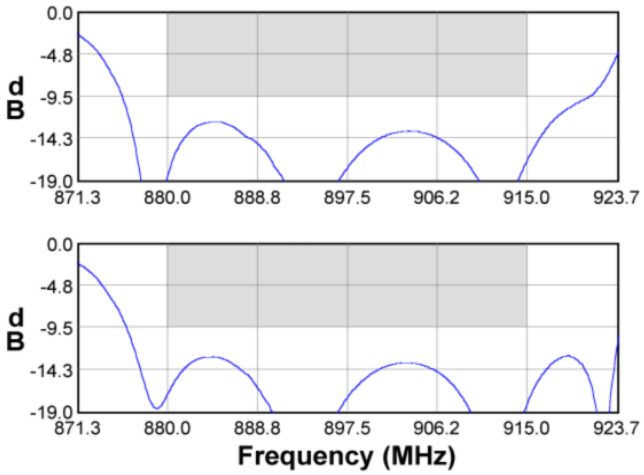
Passband Response



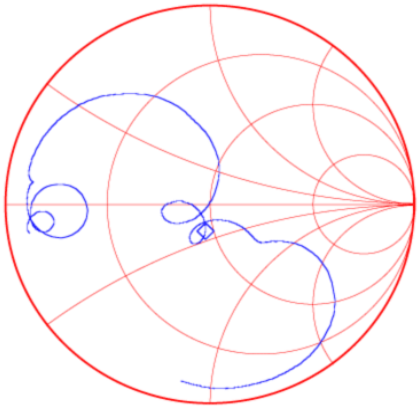
Wideband Response



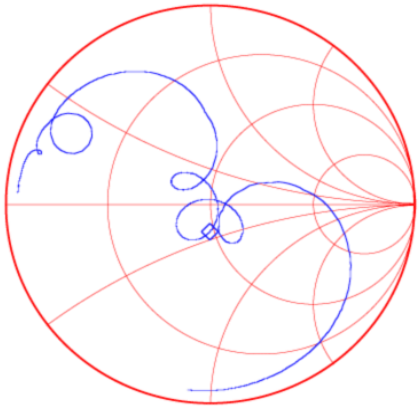
Input/Output Return Loss



Input Smith Chart



Output Smith Chart



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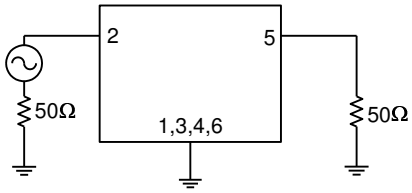
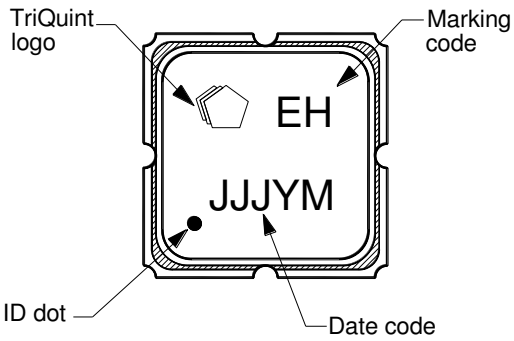
Matching Schematics

50 Ω
Single-ended



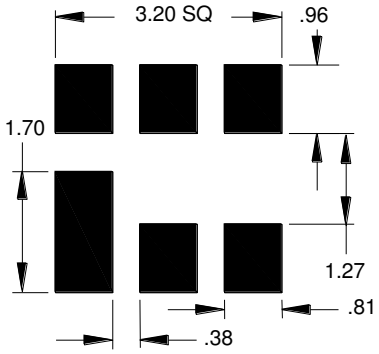
50 Ω
Single-ended

Marking



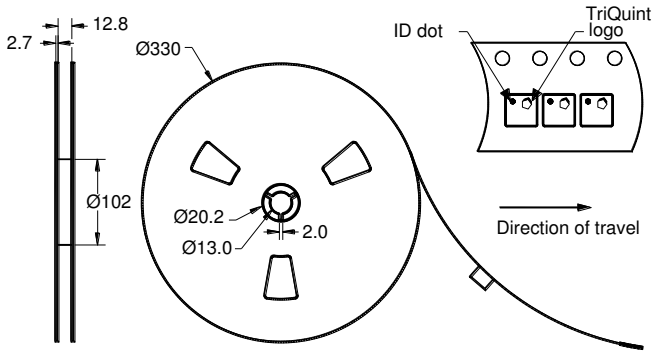
The date code consists of: JJJ = Julian day,
Y = last digit of year, M = manufacturing site code

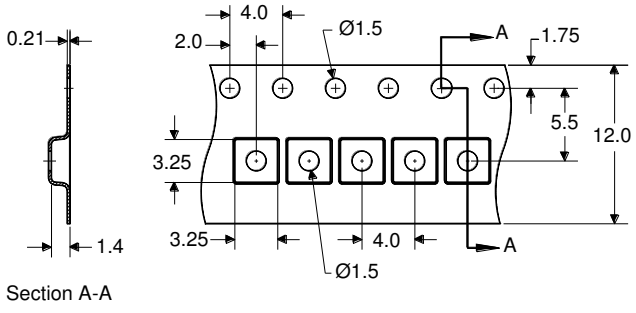
PCB Footprint



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
Input Power [1]	P_{in}	-	+22	dBm

Note:

1. Input Power is targeted for an applied CW modulated RF signal at 55 ºC for 125 hours

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

Contact Information

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