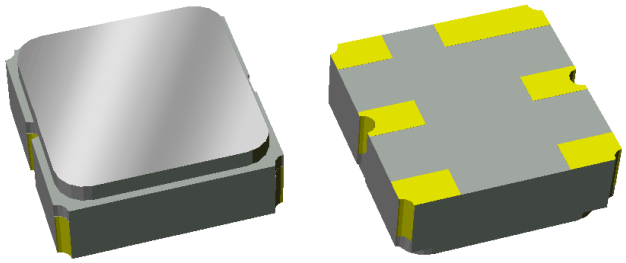
TriQuint SEMICONDUCTOR

Data Sheet

Part Number 856139
1575.42 MHz SAW Filter

Features

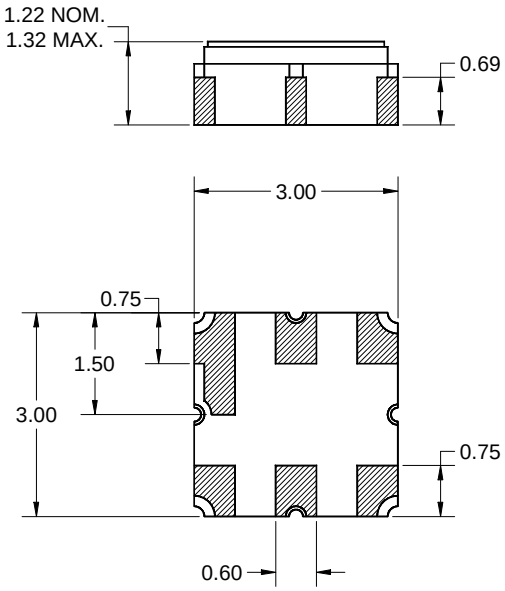
- For GPS automotive applications
- Usable bandwidth 2.4 MHz
- Low loss
- Single-ended operation
- Ceramic Surface Mount Package (SMP)
- Hermetic
- Qualified for Automotive applications
- Manufacturing facilities are certified with ISO/TS 16949:2002
- **RoHS** compliant (2002/95/EC), **Pb**-free



Package

Surface Mount 3.00 x 3.00 x 1.22 mm

SMP-12

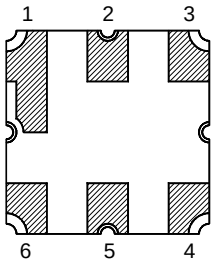


Dimensions shown are nominal in millimeters
All tolerances are ±0.15mm except overall length and width ±0.10mm

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]

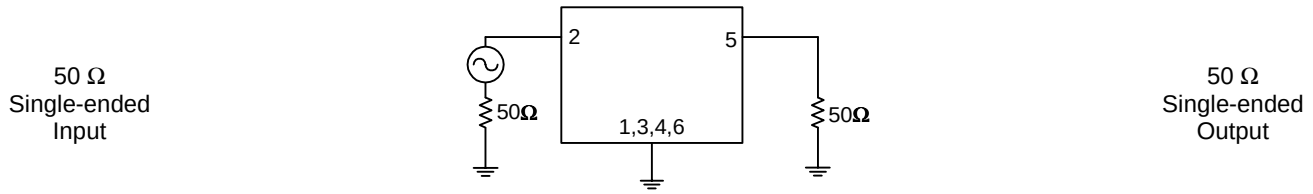
Operating Temperature Range: [2] -40 to +85 °C

Parameter [3]	Minimum	Typical [4]	Maximum	Unit
Center Frequency	-	1575.42	-	MHz
Maximum Insertion Loss				
1574.22 - 1576.62 MHz	-	1.3	1.8	dB
Passband Ripple				
1574.22 - 1576.62 MHz	-	0.3	1	dB p-p
Absolute Attenuation				
10 - 1450 MHz	40	42	-	dB
1450 - 1500 MHz	30	45	-	dB
1625 - 1640 MHz	30	58	-	dB
1640 - 2000 MHz	45	49	-	dB
2000 - 3000 MHz	30	35	-	dB
Input/Output VSWR				
1574.22 - 1576.62 MHz	-	1.2:1	2:1	dB
Source Impedance: [5]	-	50	-	Ω
Load Impedance: [5]	-	50	-	Ω

Notes:

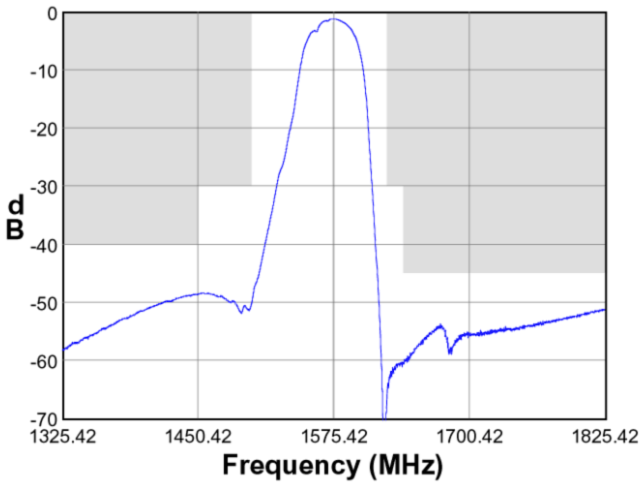
1. All specifications are based on the test circuit shown below
2. In production, devices will be tested at room temperature to a guardbanded specification to ensure electrical compliance over temperature
3. Electrical margin has been built into the design to account for the variations due to temperature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

Test Circuit:

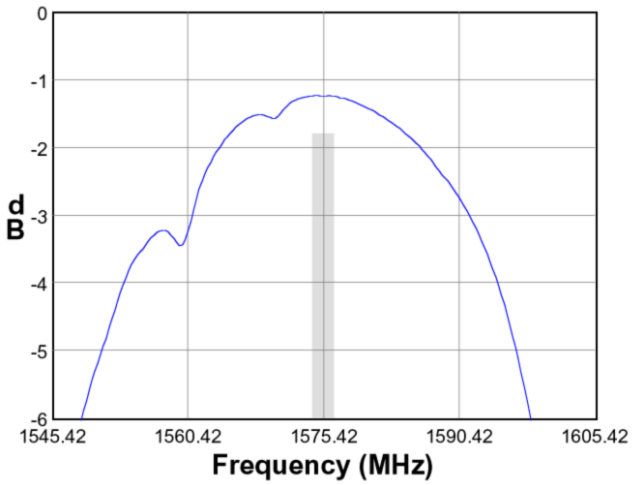


Typical Performance (at +25°C)

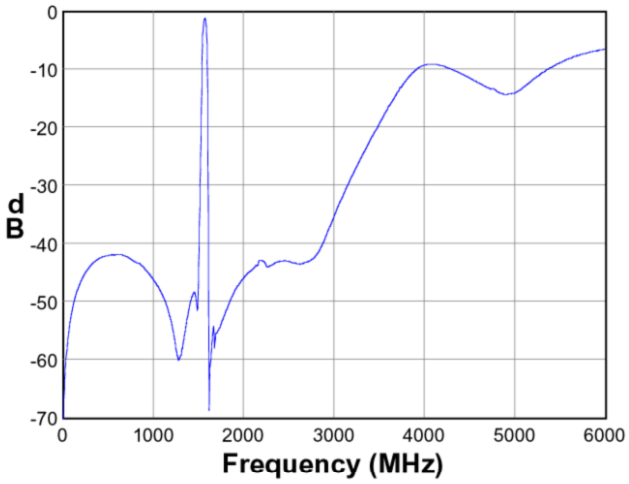
Frequency Response



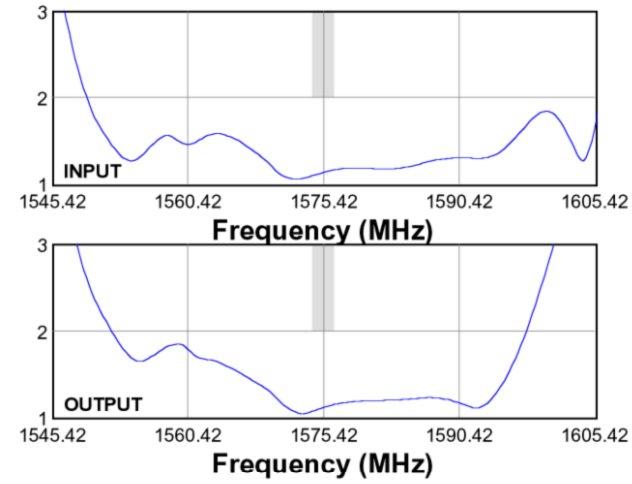
Passband Response



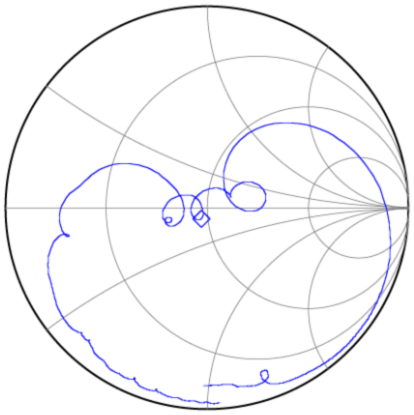
Wideband Response



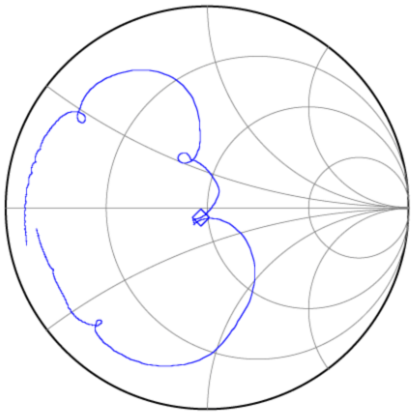
Input/Output VSWR



Input Smith Chart



Output Smith Chart



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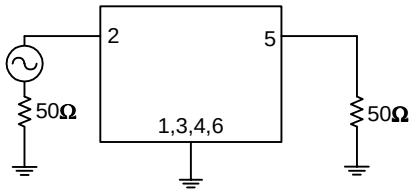
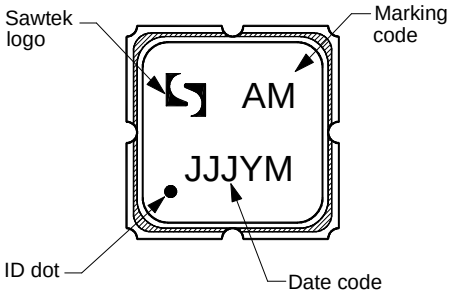
Matching Schematics

50 Ω
Single-ended
Input



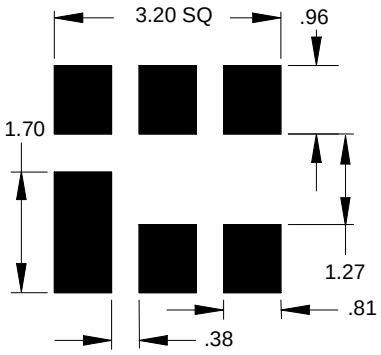
50 Ω
Single-ended
Output

Marking



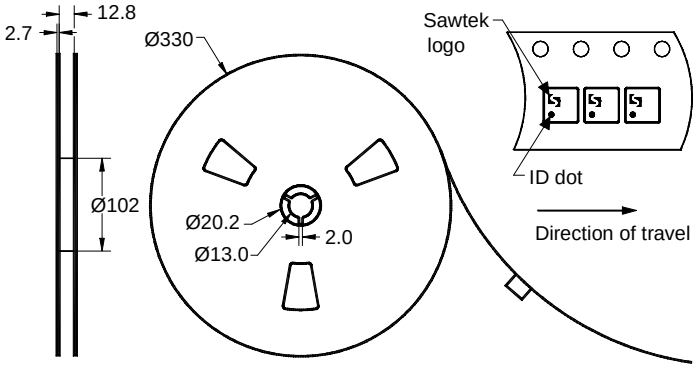
The date code consists of: JJJ = Julian day,
Y = last digit of year, M = manufacturing site code

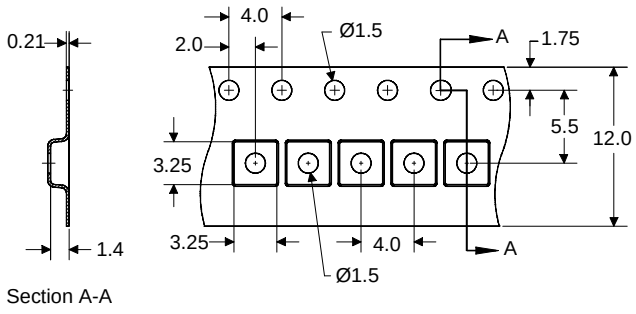
PCB Footprint



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	-40	+85	^{o}C
Storage Temperature Range	T_{stg}	-40	+85	^{o}C
RF Power	P_{in}	-	+10	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℃** peak reflow temperature (see soldering profile)

Links to Additional Technical Information

PCB Layout Tips | Qualification Flowchart | Soldering Profile

S-Parameters | Other Technical Information

Contact Information

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