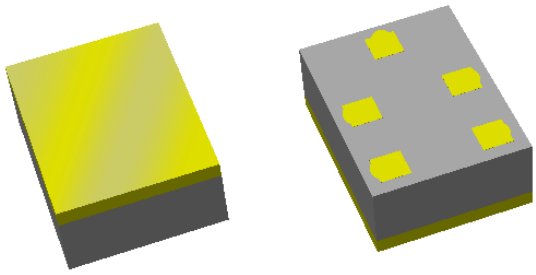
TriQuint SEMICONDUCTOR

Preliminary Data Sheet

Part Number 856700
1227.6 MHz SAW Filter

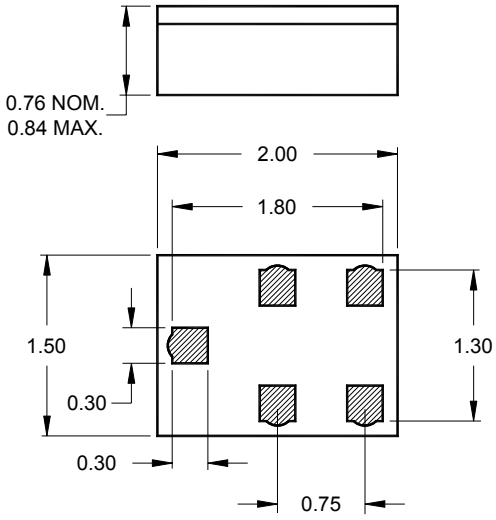
Features

- L2 filter for GPS applications
- Usable bandwidth of 20 MHz
- Low loss
- No impedance matching required for operation at 50Ω
- Ceramic Chip Scale Package (CSP)
- Hermetic
- RoHS compliant (2002/95/EC), Pb-free



Package

Surface Mount 2.00 x 1.50 x 0.76 mm

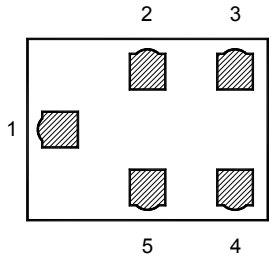


Dimensions shown are nominal in millimeters
All tolerances are ±0.10mm

Body: Al_2O_3 ceramic
Lid: *Kovar* or *Alloy 42*, *Au* over *Ni* plated
Terminations: *Au* plating 0.5 - 1.0μm,
over a 2 - 6μm *Ni* plating

Pin Configuration

Bottom View



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

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Electrical Specifications [1]

Operating Temperature Range: [2] -55 to +105 °C

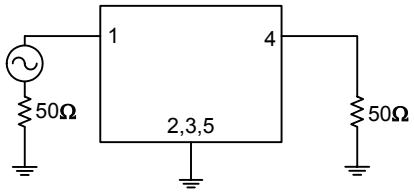
Parameter [3]	Minimum	Typical	Maximum	Unit
Center Frequency	-	1227.6	-	MHz
Minimum Insertion Loss	-	1.1	1.5	dB
3 dB Bandwidth	20	31	-	MHz
Absolute Attenuation				
300 - 1152 MHz	25	27	-	dB
1302 - 1900 MHz	25	33	-	dB
1900 - 3000 MHz	25	28	-	dB
Amplitude Ripple [4]				
1217.6 - 1237.6 MHz	-	0.5	1.4	dB p-p
Absolute Group Delay				
1217.6 - 1237.6 MHz	16	21	26	ns
Group Delay Variation				
1217.6 - 1237.6 MHz	-	10	25	ns
Input/Output Return Loss				
1217.6 - 1237.6 MHz	9	10	-	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. Maximum peak to adjacent valley measured over the indicated range
5. This is the optimum impedance in order to achieve the performance shown

Test Circuit:

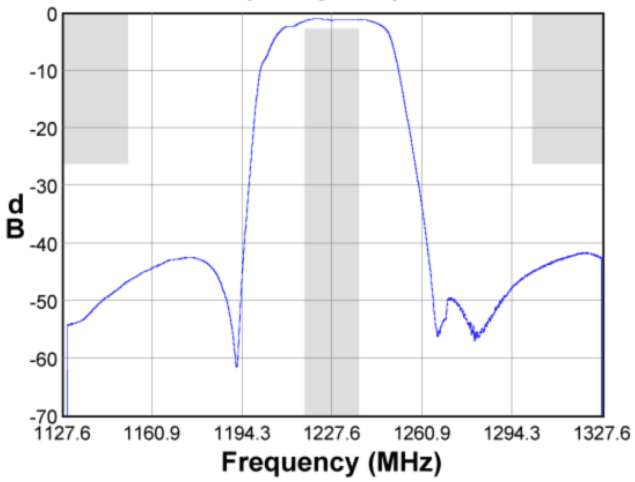
50 Ω
Single-ended



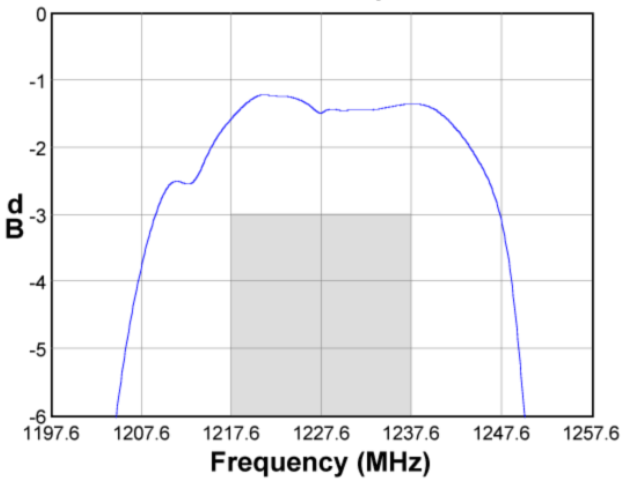
No impedance matching required

Typical Performance (at +25°C)

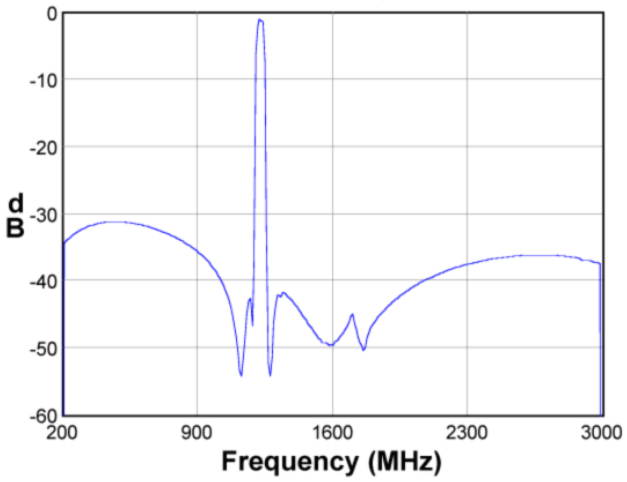
Frequency Response



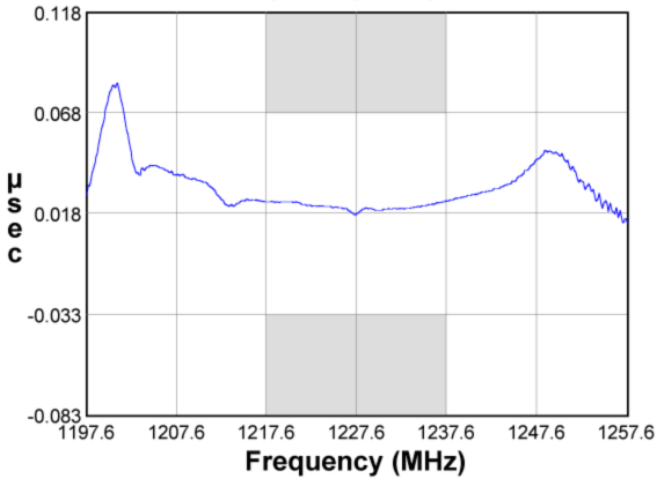
Passband Response



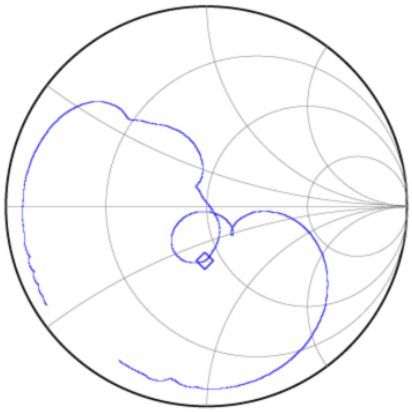
Wideband Response



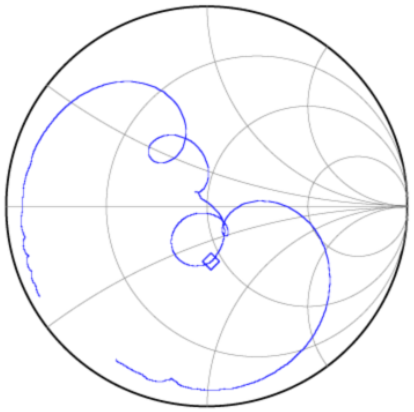
Group Delay Response



Input Smith Chart



Output Smith Chart



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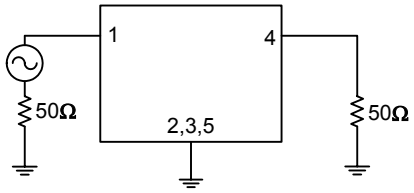
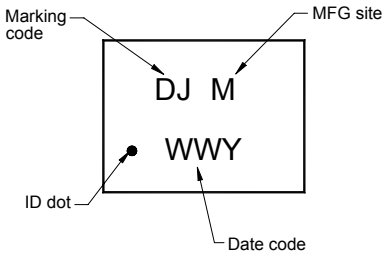
Matching Schematics

50 Ω
Single-ended



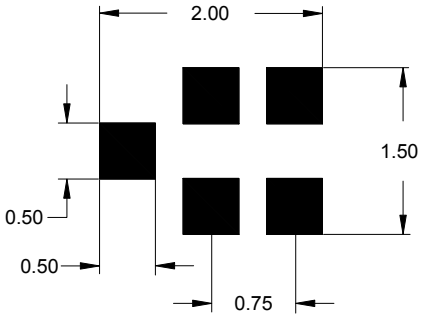
No impedance matching required

Marking



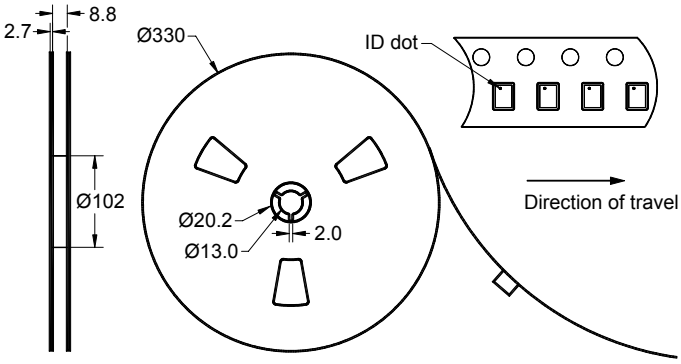
The date code consists of: WW = 2 digit week,
Y = last digit of year, M = manufacturing site code

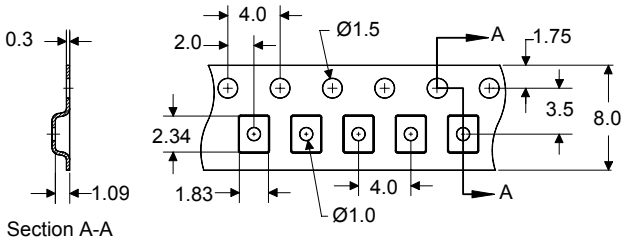
PCB Footprint



This footprint represents a recommendation only
Dimensions shown are nominal in millimeters

Tape and Reel





Dimensions shown are nominal in millimeters
Packaging quantity: 10000 units/reel

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Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Unit
Operating Temperature Range	T	-55	+105	°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 (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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