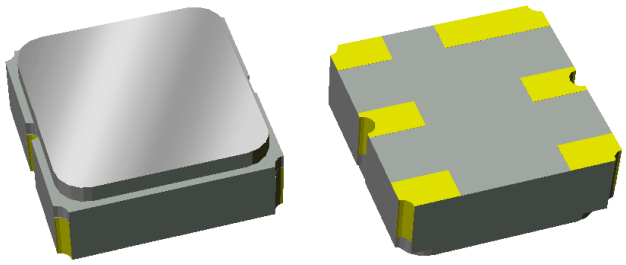
TriQuint SEMICONDUCTOR

Preliminary Data Sheet

Part Number 856654
1747.5 MHz SAW Filter

Features

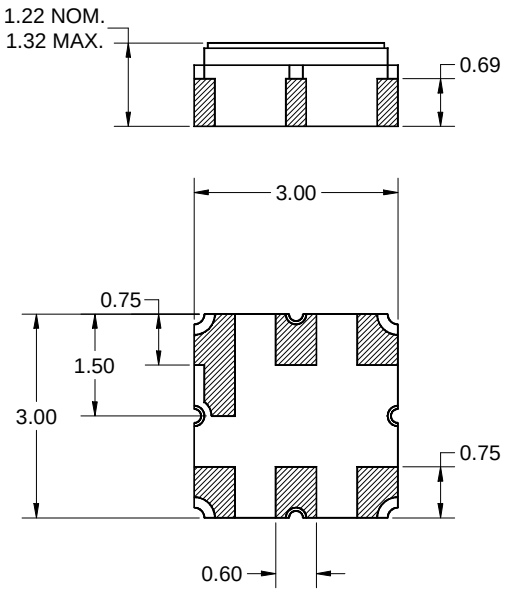
- For 1747.5MHz DCS applications
- Usable 75 MHz
- Low loss
- Matching required for operation at 50 Ω
- Single-ended operation
- Ceramic Surface Mount Package (SMP)
- Hermetic
- RoHS compliant (2002/95/EC), Pb-free



Package

Surface Mount 3.00 x 3.00 x 1.22 mm

SMP-12A

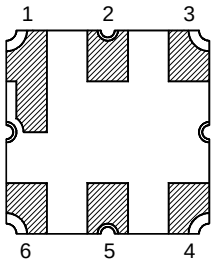


Dimensions shown are nominal in millimeters
All tolerances are ±0.15mm except overall length and width ±0.10mm

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]

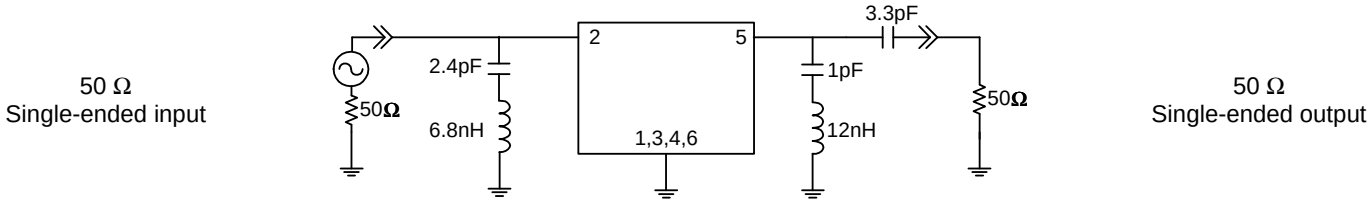
Operating Temperature Range: [2] -30 to +85 °C

Parameter [3]	Minimum	Typical [4]	Maximum	Unit
Center Frequency	-	1747.5	-	MHz
Maximum Insertion Loss				
1710 - 1785 MHz	-	2.2	2.8	dB
Absolute Attenuation [5]				
180 - 220 MHz	38	46	-	dB
1197 - 1452 MHz	50	54	-	dB
1606 - 1676 MHz	5.5	7	-	dB
2100 - 2157 MHz	20	26	-	-
2680 - 3005 MHz	15	22	-	-
3197 - 6000 MHz	6	9	-	-
Amplitude Ripple				
1710 - 1785 MHz	-	-	+/-0.8	dB p-p
Input/Output Return Loss				
1710 - 1785 MHz	-	13	10	dB
Source Impedance: [6]	-	50	-	Ω
Load Impedance: [6]	-	50	-	Ω

Notes:

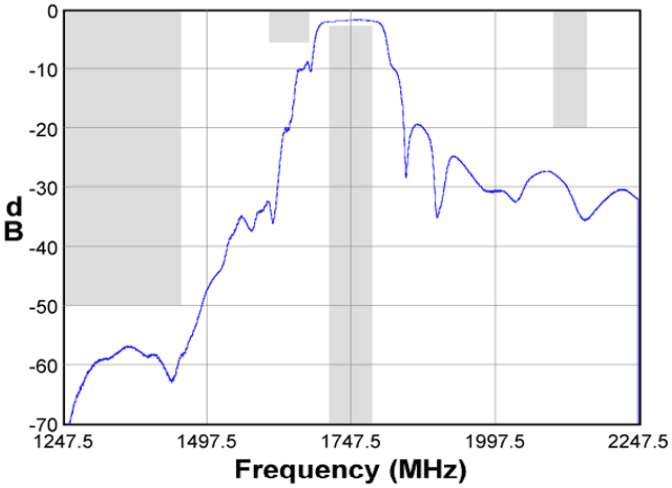
1. All specifications are based on TriQuint test circuit shown below
2. In production, devices will be tested at room temperature to a guardbanded specification to ensure electrical compliance over temperature
3. Electrical margin has been built into the design to account for the variations due to temperature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

Test Circuit:

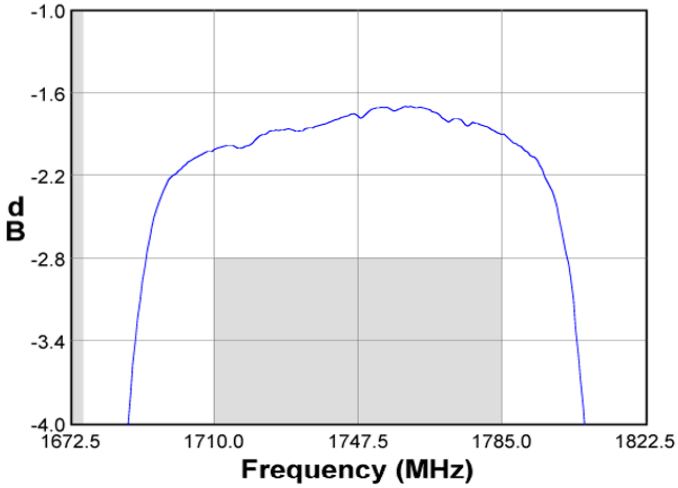


Typical Performance (at room temperature)

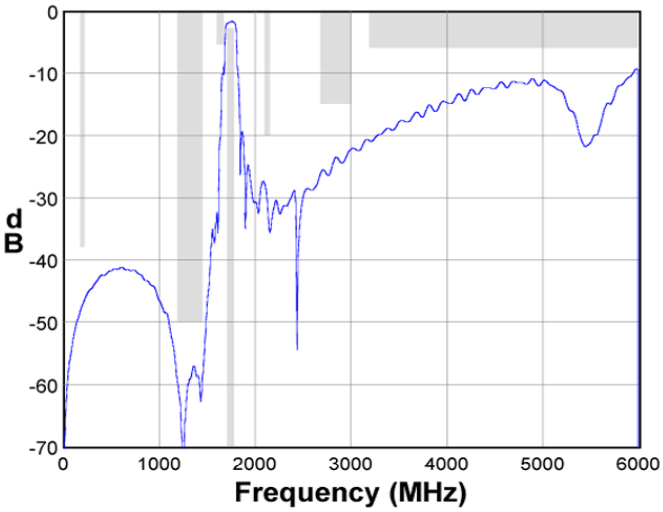
Frequency Response



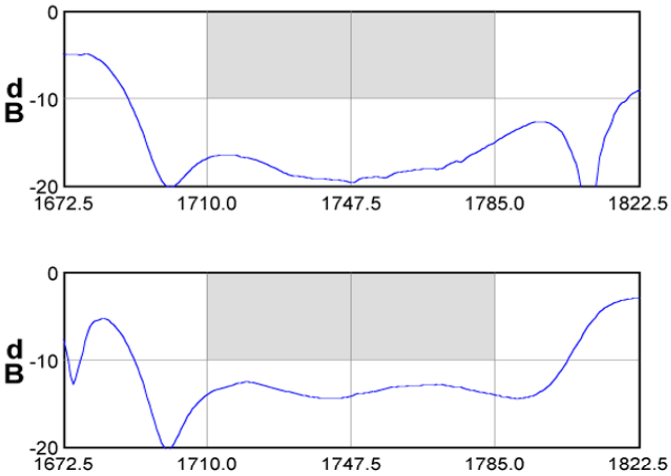
Passband Response



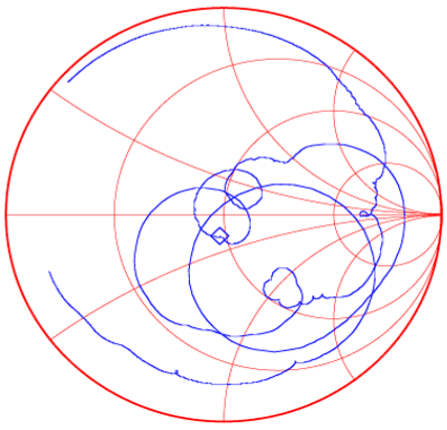
Wideband Response



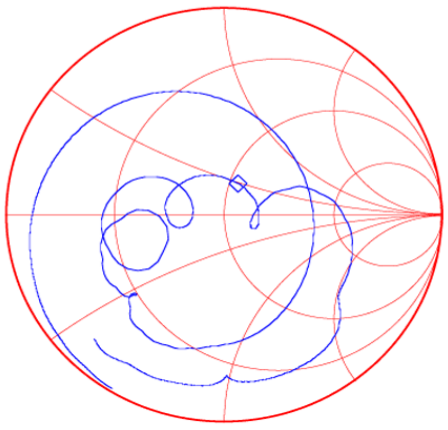
Input\Output Return Loss



Input Smith Chart



Output Smith Chart



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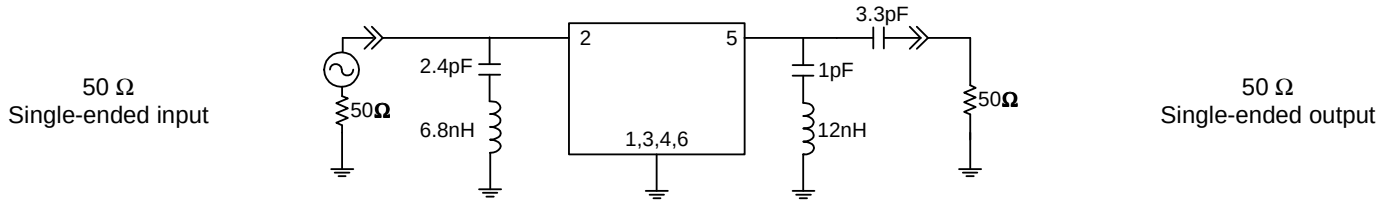
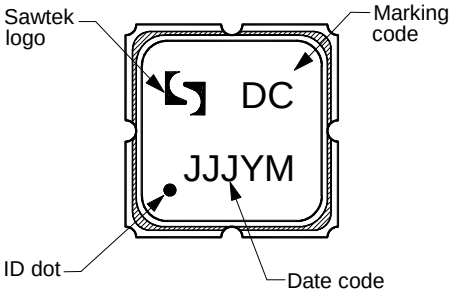
Matching Schematics

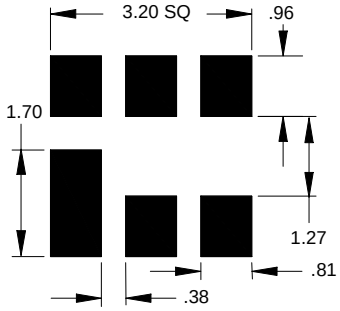


Marking



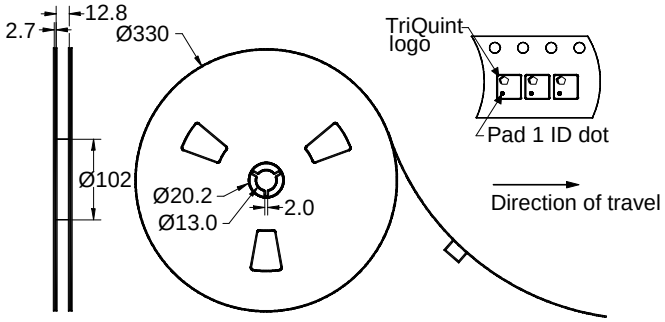
The date code consists of: JJJ = Julian day,
Y = last digit of year, M = manufacturing site code

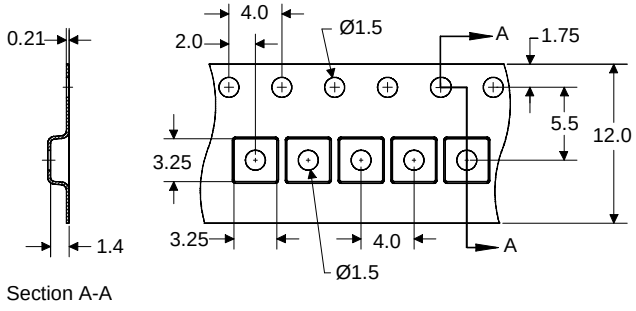
PCB Footprint



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

Preliminary Data Sheet

Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Unit
Operating Temperature Range	T	-30	+80	^{o}C
Storage Temperature Range	T_{stg}	-40	+85	^{o}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 JESD22-B102, Pb-free process, 260C 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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