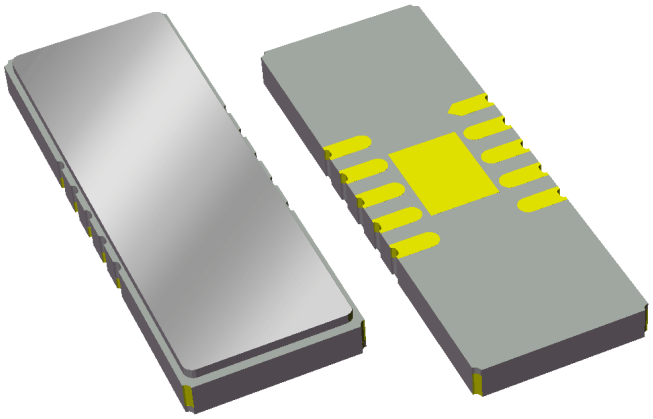
TriQuint SEMICONDUCTOR

Data Sheet

Part Number 856152
73 MHz SAW Filter

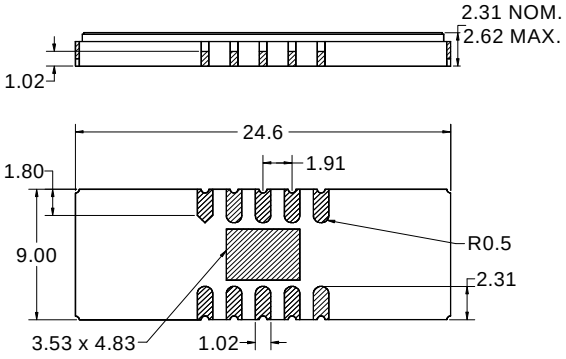
Features

- For medical applications
- Usable bandwidth 0.3 MHz
- High attenuation)
- Single-ended operation
- Ceramic Surface Mount Package (SMP)
- **RoHS** compliant (2002/95/EC), **Pb**-free



Package

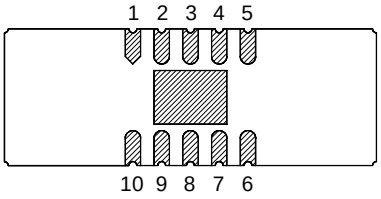
Surface Mount 24.6 x 9.00 x 2.31 mm



Pin Configuration

Bottom View

This package includes a center pad.
Soldering of the center pad to PCB is not recommended and not required.



Single-ended Configuration

Pin No.	Description
1	Input return
5	Output
6	Output return
10	Input
2,3,4,7,8,9	Case Ground

Dimensions shown are nominal in millimeters
All tolerances are ±0.15mm except overall length ±0.20mm and width +0.13/-0.20mm

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

Electrical Specifications [1]

Operating Temperature Range: [2] 0 to +55 °C

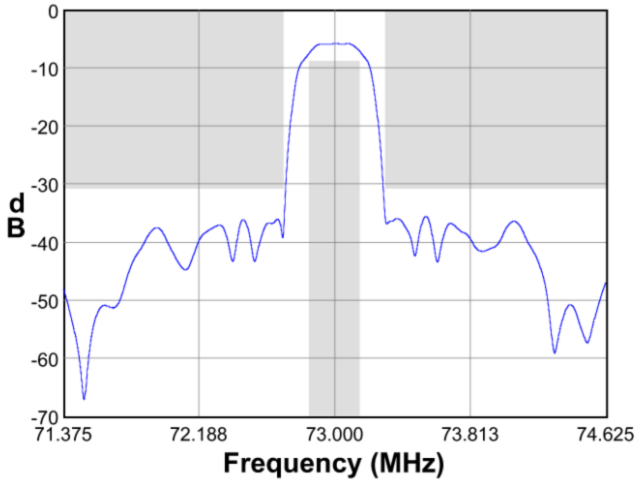
Parameter [3]	Minimum	Typical [4]	Maximum	Unit
Center Frequency [5]	-	73	-	MHz
Minimum Insertion Loss	-	6	7	dB
Lower 3 dB Band Edge [6]	-	72.812	72.850	MHz
Upper 3 dB Band Edge [6]	73.150	73.192	-	MHz
Lower 25 dB Band Edge [6]	72.695	72.710	-	MHz
Upper 25 dB Band Edge [6]	-	73.295	73.305	MHz
Gaussian Ripple [7]				
72.85 – 73.15 MHz	-	0.76	1.10	dB
Group Delay at Center Frequency [8]	-	2.5	-	µsec
Group Delay Variation [8]				
72.85 – 73.15 MHz	-	0.665	1.350	µsec p-p
Stopband Rejection [6]				
10.0 – 68.0 MHz	50	59.3	-	dB
68.0 – 69.9 MHz	45	53.7	-	dB
76.1 – 78 MHz	45	55.2	-	dB
78.0 – 200 MHz	50	61.8	-	dB
Input VSWR				
72.85 – 73.15 MHz	-	1.9:1	2.5:1	-
Output VSWR				
72.85 – 73.15 MHz	-	1.8:1	2:1	-
Triple Transit Suppression	21	23.06	-	dB
Input Power (Dwell time of 5 seconds max)	-	-	+10	dBm
Source Impedance (single-ended) [9]	-	50	-	Ω
Load Impedance (single-ended) [9]	-	50	-	Ω

Notes:

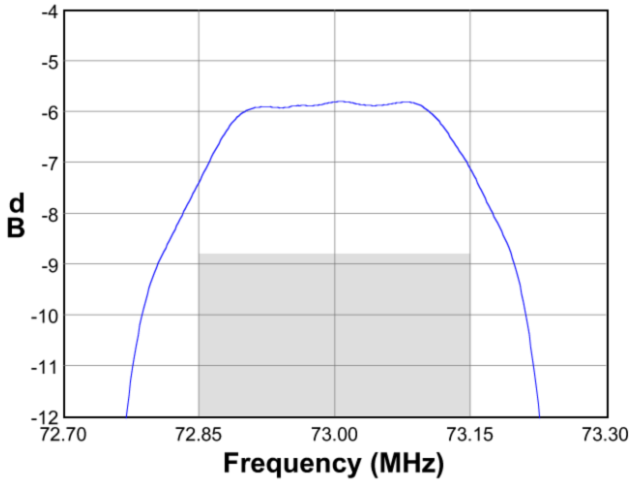
1. All specifications are based on the TriQuint test circuit shown on page 4
2. In production, devices will be tested at room temperature to a guardbanded specification to ensure electrical compliance over temperature
3. Electrical margin has been built into the design to account for the variations due to temperature drift and manufacturing tolerances
4. Typical values are based on average measurements at room temperature
5. Center frequency is measured as the average of the upper and lower 3 dB bandedges, measured from minimum insertion loss
6. Rejection measurements are referenced from minimum insertion loss
7. Gaussian ripple is defined as the total deviation from an ideal Gaussian filter
8. Group delay variation is the total peak to peak variation over the given frequency range
9. This is the optimum impedance in order to achieve the performance shown

Typical Performance (at room temperature)

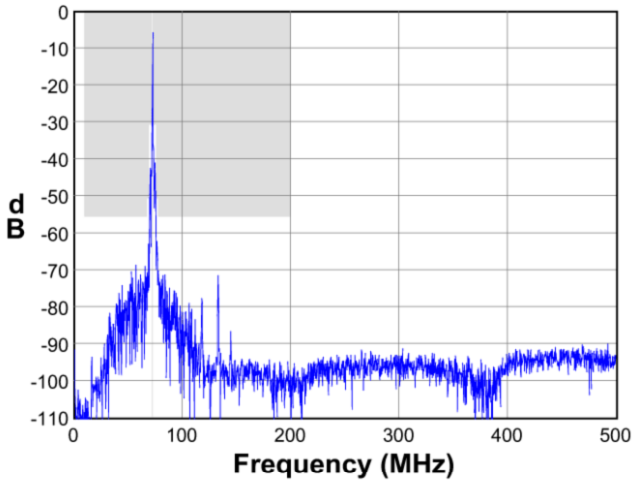
Frequency Response



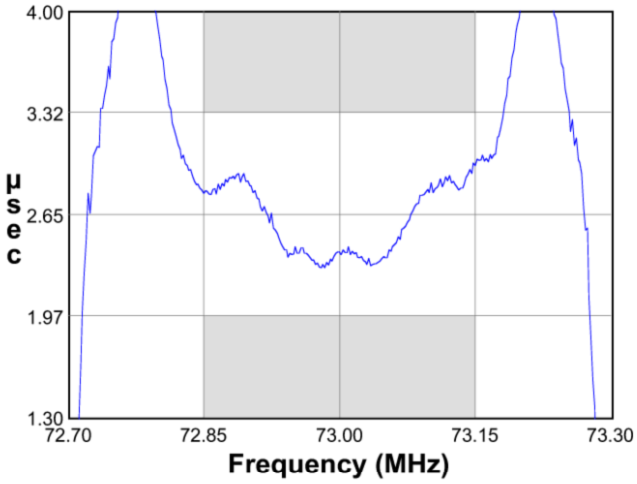
Passband Response



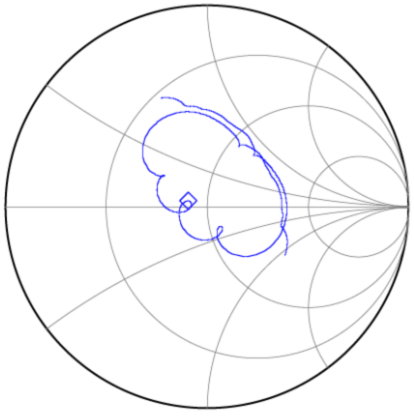
Wideband Response



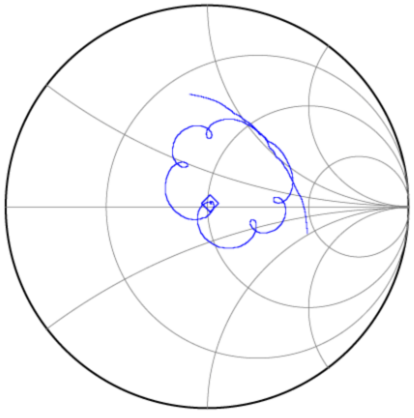
Group Delay Variation



Input Smith Chart



Output Smith Chart



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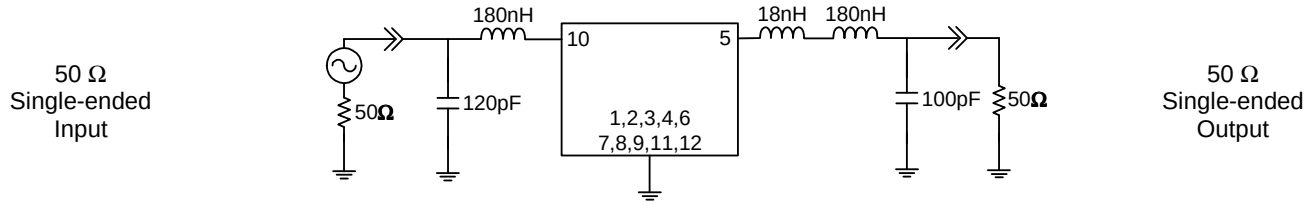
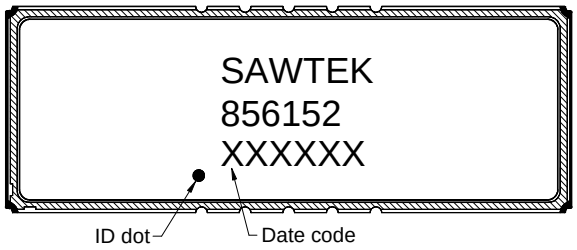
Matching Schematics

Actual matching values may vary due to PCB layout and parasitics

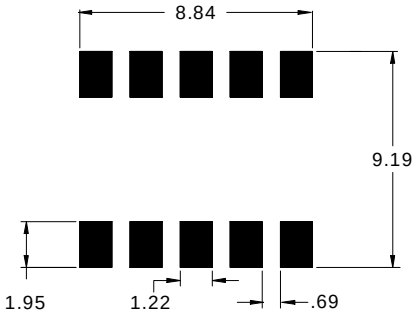


Marking



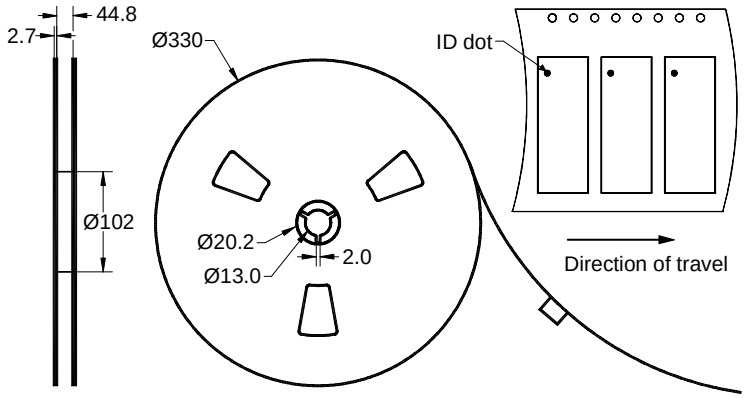
The date code consists of: day of the current year (Julian, 3 digits), last digit of the year (1 digit) and hour (2 digits)

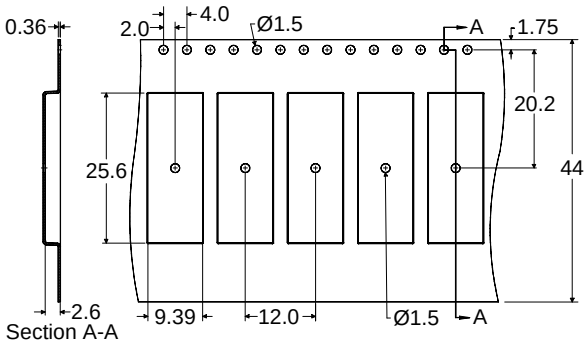
PCB Footprint



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

Tape and Reel





Dimensions shown are nominal in millimeters
Packaging quantity: 1000 units/reel

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Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Unit
Operating Temperature Range	T	0	+55	^{o}C
Storage Temperature Range	T_{stg}	-40	+85	^{o}C
Input 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 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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