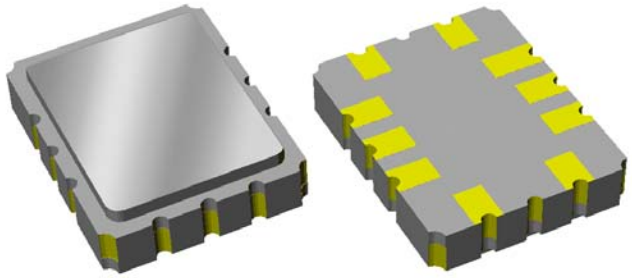
TriQuint SEMICONDUCTOR

Data Sheet

Part Number 856631
380 MHz SAW Filter

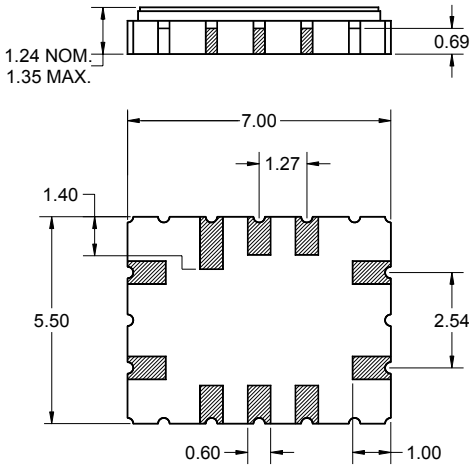
Features

- For WiMAX applications
- Useable bandwidth 10.5 MHz
- High attenuation
- Impedance matching required
- Balanced operation
- Ceramic Surface Mount Package (SMP)
- Hermetic
- RoHS compliant (2002/95/EC), Pb-free



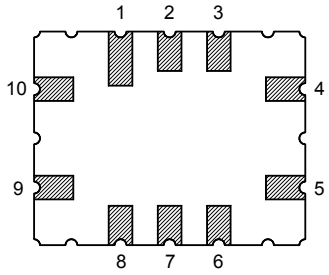
Package

Surface Mount 7.00 x 5.50 x 1.24 mm



Pin Configuration

Bottom View



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

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

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

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Electrical Specifications [1]

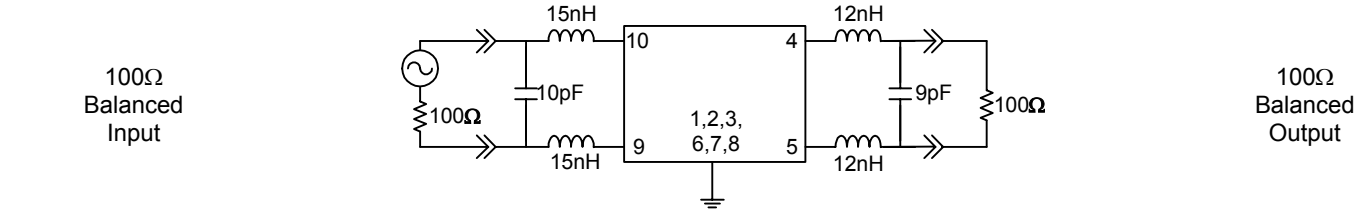
Operating Temperature Range: [2] -40 to +85 °C

Parameter [3]	Minimum	Typical	Maximum	Unit
Center Frequency, F_o	-	380	-	MHz
Insertion Loss at F_o	-	8.7	12	dB
1 dB Lower Frequency [4]	-	373.8	374.75	MHz
1 dB Upper Frequency	385.25	386.0	-	MHz
10 dB Lower Frequency [4]	371.5	372.2	-	MHz
10 dB Upper Frequency	-	387.5	388.5	MHz
20 dB Lower Frequency [4]	370.9	371.6	-	MHz
20 dB Upper Frequency	-	388.2	389.1	MHz
35 dB Lower Frequency [4]	367	370.1	-	MHz
35 dB Upper Frequency	-	389.3	393	MHz
40 dB Lower Frequency [4]	362	370.7	-	MHz
40 dB Upper Frequency	-	389.4	398	MHz
Stopband Rejection [4]				
260 - 348 MHz	40	55	-	dB
348 - 358 MHz	45	52	-	dB
358 - 362 MHz	40	46	-	dB
398 - 500 MHz	40	50	-	dB
Passband Variation [5]				
374.75 - 385.25 MHz	-	0.3	1	dB p-p
Average Group Delay				
374.75 - 385.25 MHz	-	0.65	0.85	µs
Group Delay Variation				
374.75 - 385.25 MHz	-	35	100	ns
Optimal Source Impedance (Balanced) [6]	-	100	-	Ω
Optimal Load Impedance (Balanced) [6]	-	100	-	Ω

Notes:
1. All target 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 manufacturing tolerances
4. Relative to insertion loss at 183.6 MHz
5. Passband variation is defined as the difference between the lowest loss and the highest loss within the passband. The edge of the passband is the point where the amplitude begins a downward trend that does not reverse until the stopband
6. This is the optimum impedance in order to achieve the performance shown

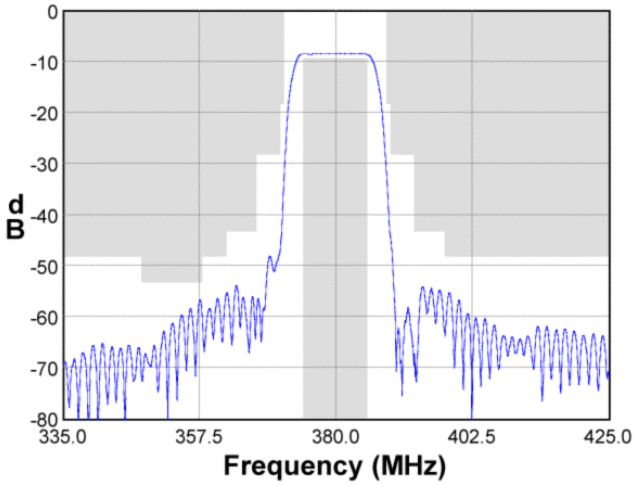
Test Circuit:

Actual matching values may vary due to PCB layout and parasitics

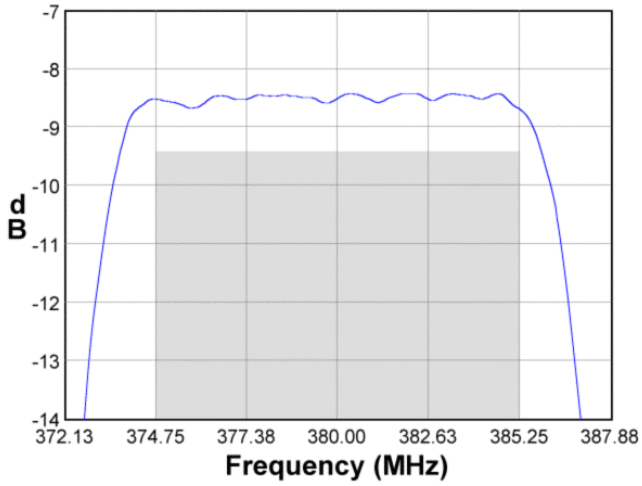


Typical Performance (at +25°C)

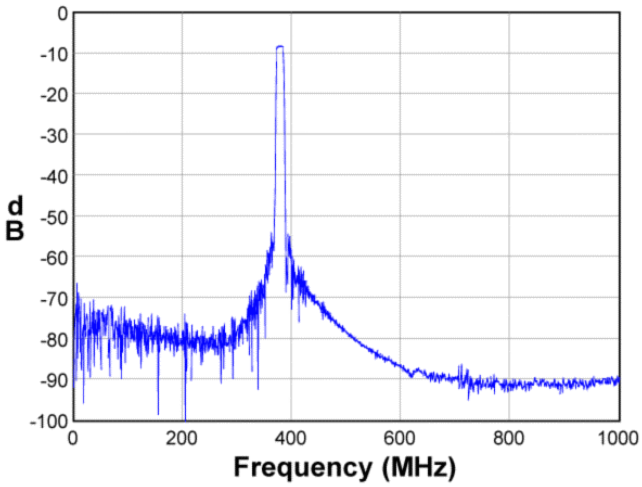
Frequency Response



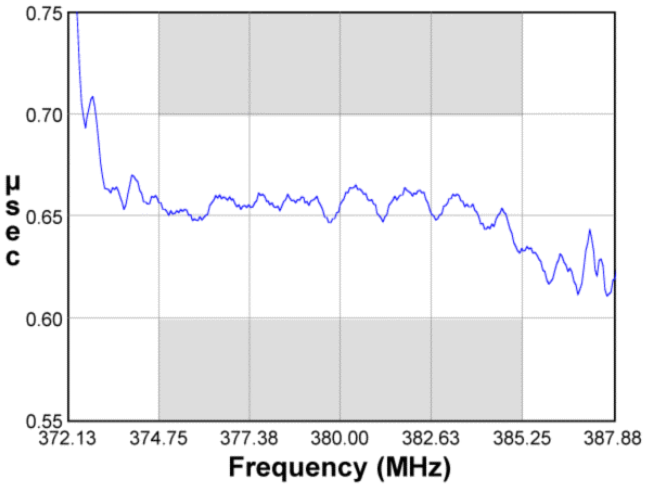
Passband Response



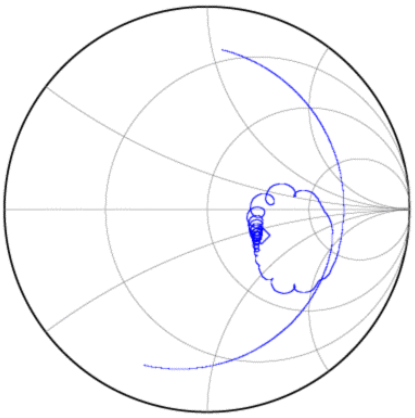
Wideband Response



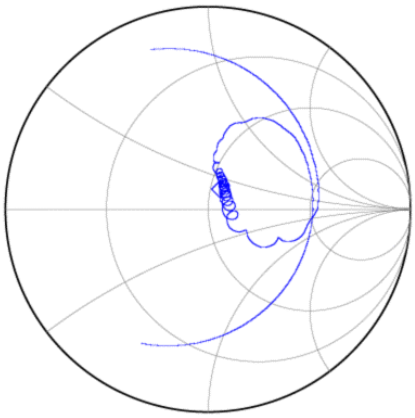
Group Delay Variation



Input Smith Chart



Output Smith Chart



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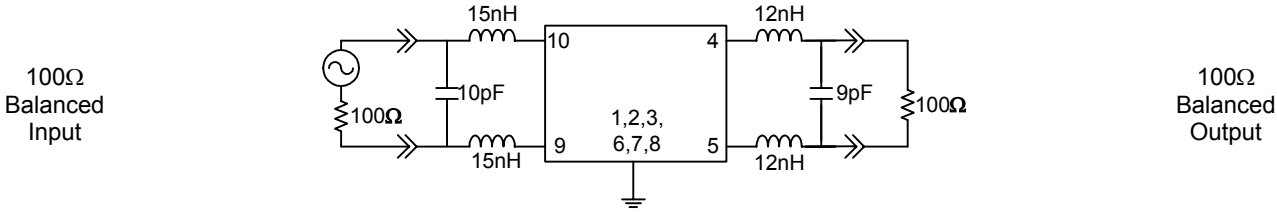
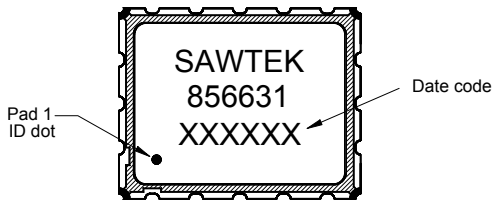
Matching Schematics

Actual matching values may vary due to PCB layout and parasitics

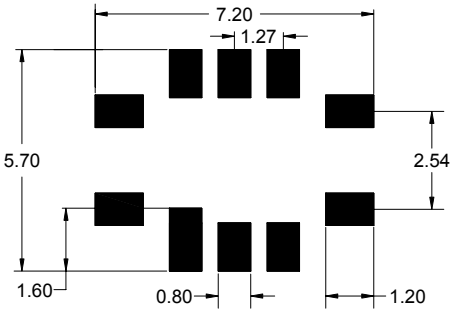


Marking



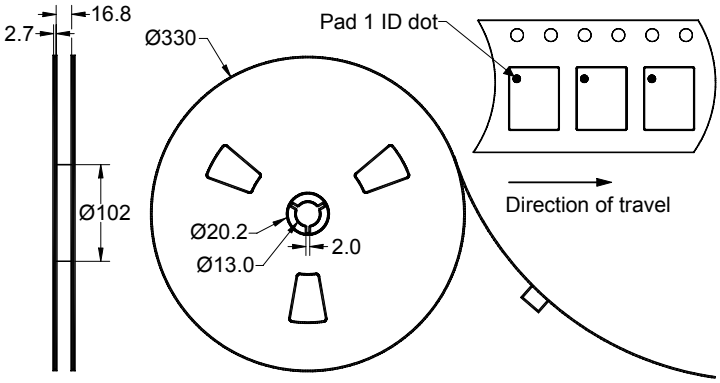
The date code consists of: day of the current year (Julian, 3 digits), last digit of the year (1 digit) and hour (2 digits)

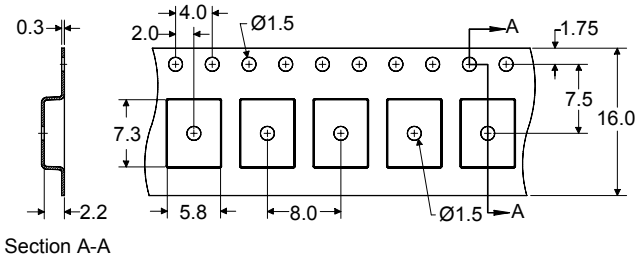
PCB Footprint



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

Tape and Reel





Dimensions shown are nominal in millimeters
Packaging quantity: 3000 units/reel

Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Unit
Operating Temperature Range	T	-40	+85	°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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