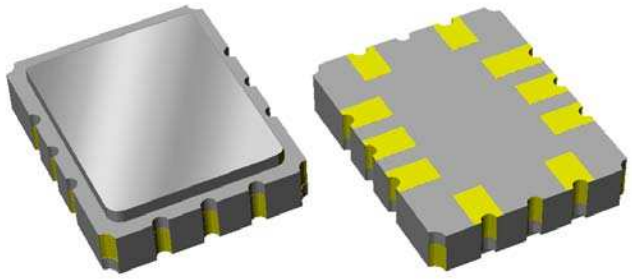
TriQuint SEMICONDUCTOR

Preliminary Datasheet

Part Number 856665
580 MHz SAW Filter

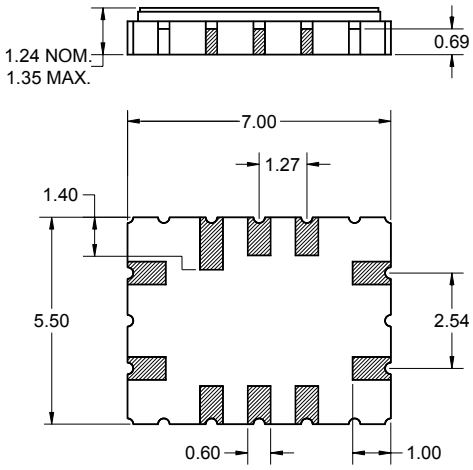
Features

- 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



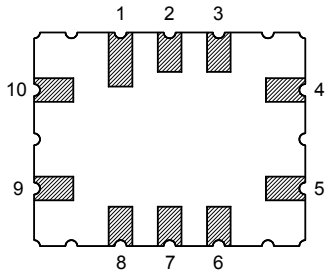
Package

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

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Target Electrical Specifications (1)

Operating Temperature Range: -40 to +85 °C

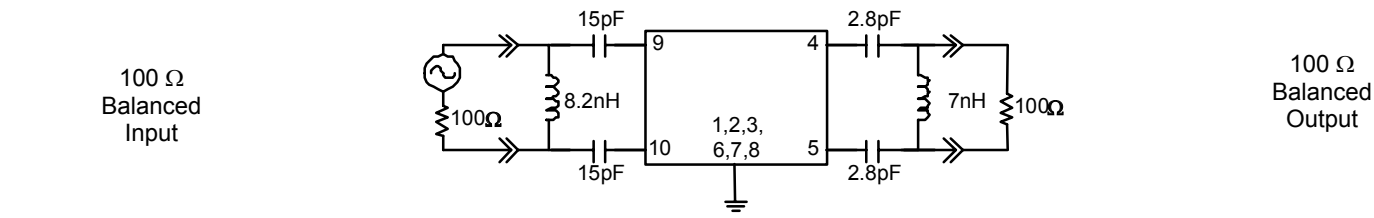
Parameter	Minimum	Typical	Maximum	Unit
Center Frequency, F_o	-	580	-	MHz
Insertion Loss at F_o	-	10.7	13	dB
1 dB lower frequency (2)	-	573.2	574.75	MHz
1 dB upper frequency	585.25	586.5	-	MHz
10 dB lower frequency (2)	570.5	572.0	-	MHz
10 dB upper frequency	-	588.0	589.5	MHz
20 dB lower frequency (2)	569.9	571.3	-	MHz
20 dB upper frequency	-	588.6	590.1	MHz
35 dB lower frequency (2)	567	570.4	-	MHz
35 dB upper frequency	-	589.0	593	MHz
40 dB lower frequency (2)	562	568.7	-	MHz
40 dB upper frequency	-	595.2	598	MHz
Passband variation (3) 574.75 - 585.25 MHz	-	0.5	1	dB p-p
Average group delay 574.75 - 585.25 MHz	-	0.70	0.85	µs
Group delay variation 574.75 - 585.25 MHz	-	55	100	ns
Rejection(2)				
460 – 548 MHz	40	52	-	dB
548 - 558 MHz	45	49	-	dB
558 – 562 MHz	40	46	-	dB
598 – 700 MHz	40	44	-	dB
Source Impedance (Balanced)	-	100	-	Ω
Load Impedance (Balanced)	-	100	-	Ω

Notes:

1. All target specifications represent a design goal and not a guarantee until the design is finalized and a data sheet is issued
2. Relative to insertion loss at F_o
3. 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

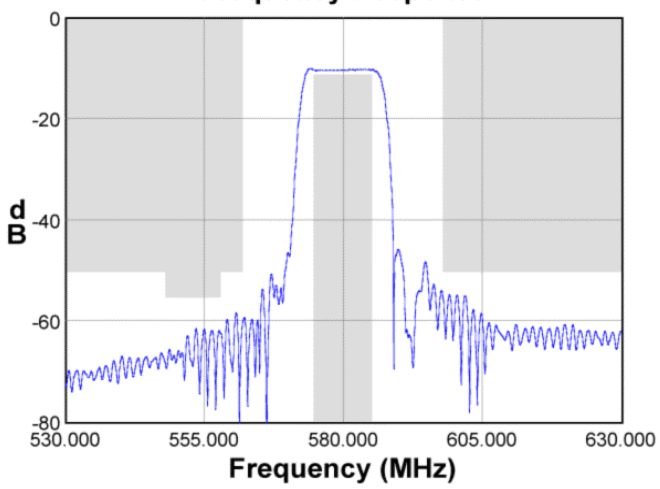
Test Circuit:

Actual matching values may vary due to PCB layout and parasitics

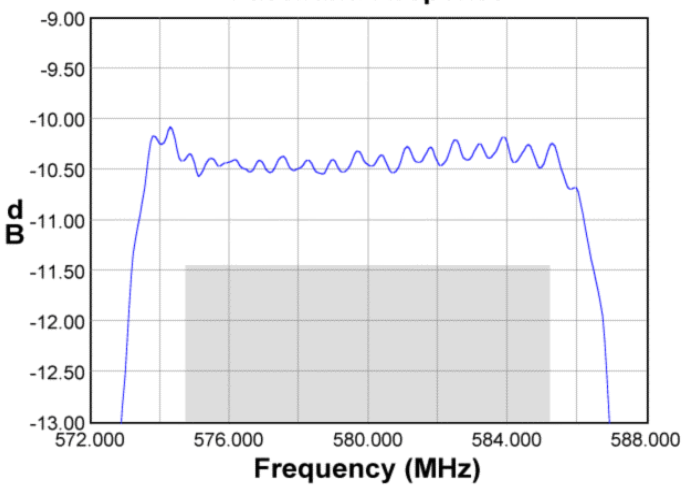


Typical Performance (at +25°C)

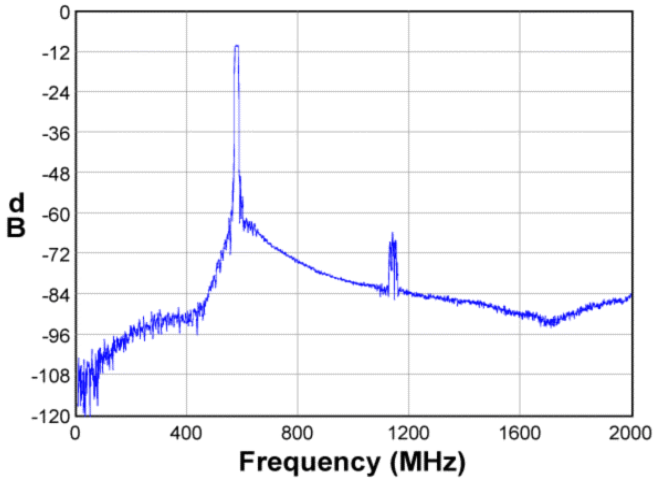
Frequency Response



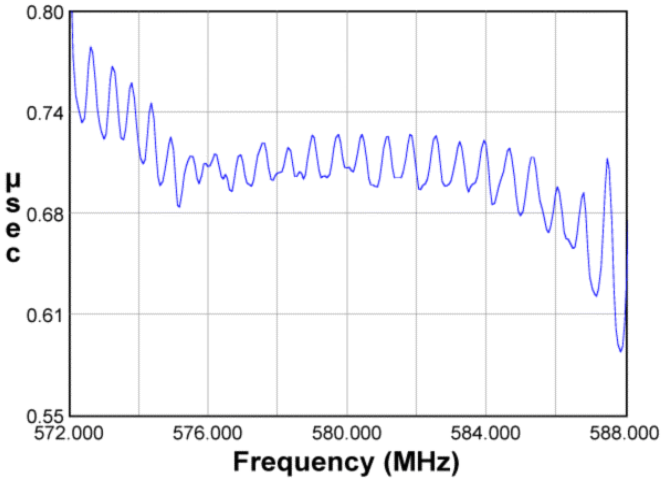
Passband Response



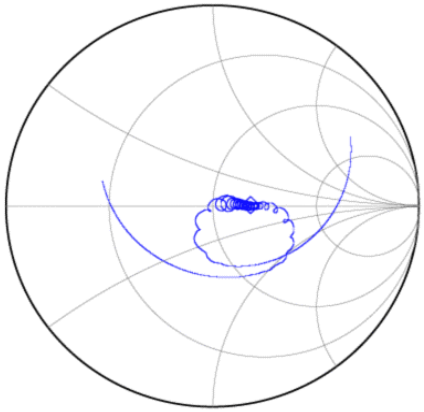
Wideband Response



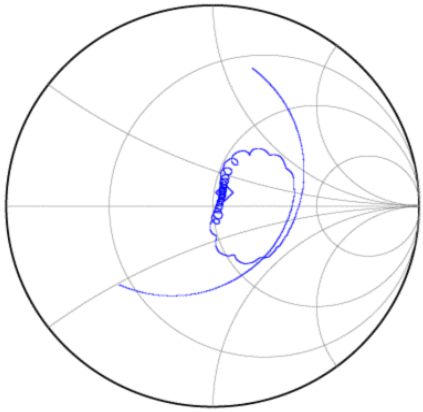
Group Delay Ripple



Input Smith Chart



Output Smith Chart



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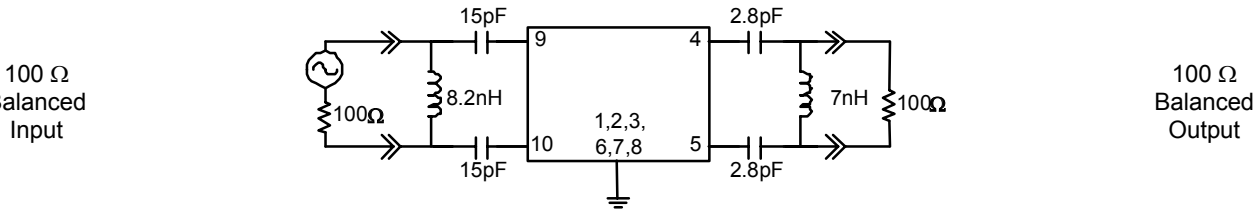
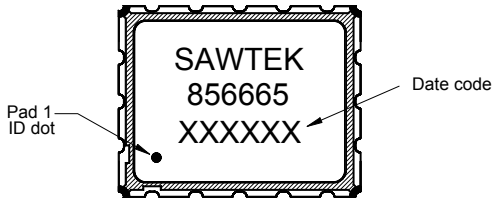
Matching Schematics

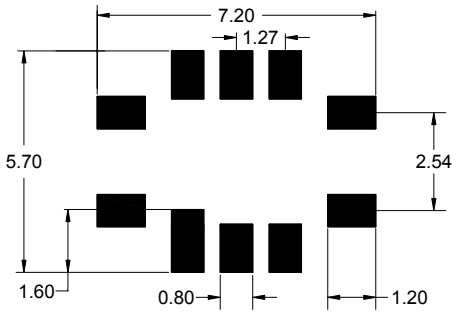


Marking



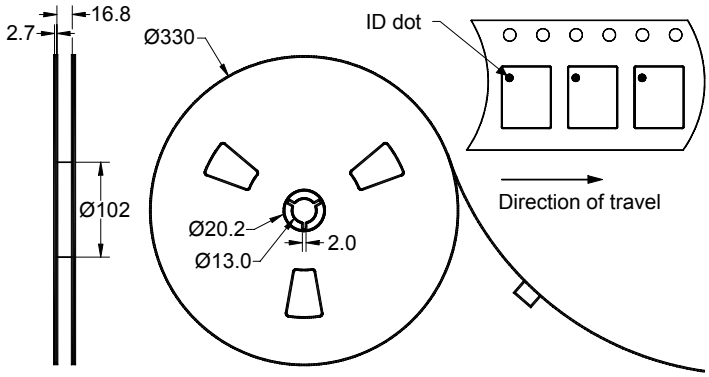
The date code consists of: day of the current year (Julian, 3 digits), last digit of the year (1 digit) and hour (2 digits)

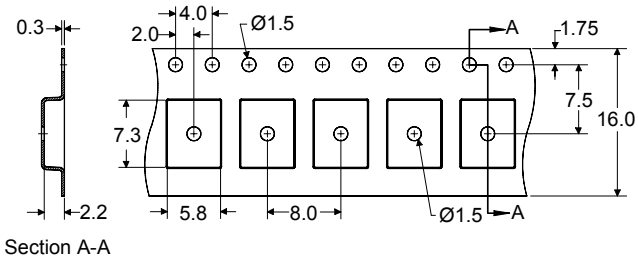
PCB Footprint



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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