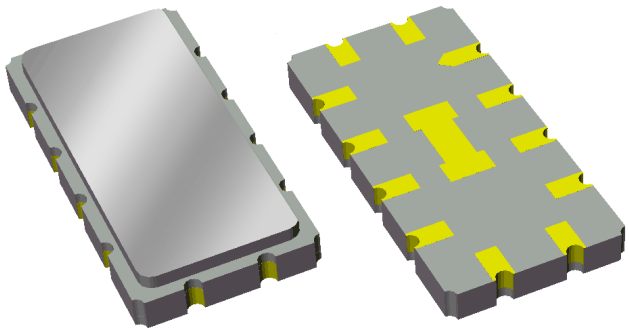
TriQuint SEMICONDUCTOR

Data Sheet

Part Number 855444
211 MHz SAW Filter

Features

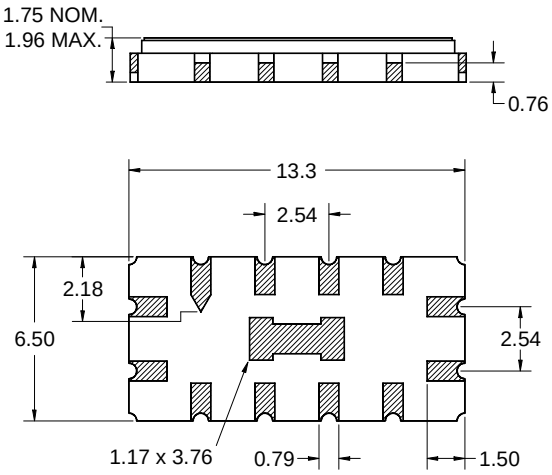
- Usable bandwidth of 700 kHz
- Low loss
- High attenuation
- Single-ended operation, 50 Ω
- Ceramic Surface Mount Package (SMP)
- Hermetic
- RoHS compliant (2002/95/EC), Pb-free



Package

Surface Mount 13.30 x 6.50 x 1.75 mm

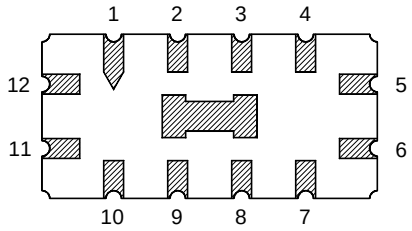
SMP-53B



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
5	Output
11	Input
1,2,3,4,6	Case ground
7,8,9,10,12	Case ground

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

Electrical Specifications [1]

Operating Temperature Range: [2] -10 to +85 °C

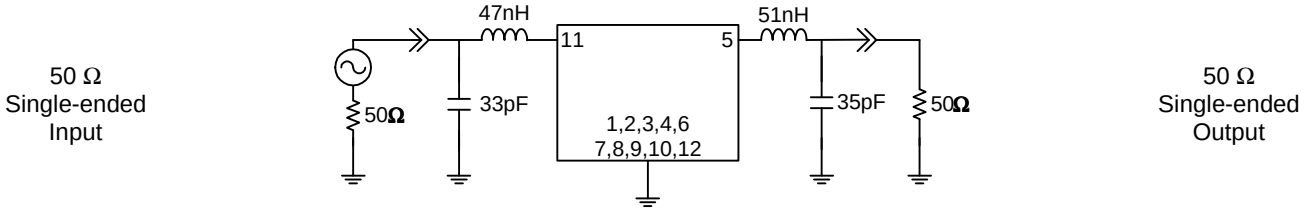
Parameter [3]	Minimum	Typical [4]	Maximum	Unit
Center Frequency, F_o	-	211	-	MHz
Minimum Insertion Loss at F_o		5.75	8.0	dB
3 dB Lower Bandedge [5]	-	210.56	210.6	MHz
3 dB Upper Bandedge [5]	211.4	211.5	-	MHz
Attenuation at $F_o \pm 630$ kHz	6	8.1	-	dB
Attenuation at $F_o \pm 1$ MHz	10	28.4	-	dB
Absolute Delay	-	1.383	-	µs
Group Delay Ripple				
210.85 - 211.15 MHz	-	215	250	ns
Relative Attenuation [5]				
131 - 209 MHz	30	46.6	-	dB
213 - 291 MHz	30	46.6	-	dB
291 - 2000 MHz	40	70	-	dB
Optimal Source Impedance [6]	-	50	-	Ω
Optimal Load Impedance [6]	-	50	-	Ω

Notes:

1. All specifications are based on the 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 are based on average measurements at room temperature
5. Relative to minimum insertion loss at F_O
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



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Part Number 855444
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Electrical Specifications [1]

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Attenuation at $F_o \pm 1$ MHz	10	28.4	-	dB
Absolute Delay	-	1.383	-	µs
Group Delay Ripple				
210.85 - 211.15 MHz	-	215	325	ns
Relative Attenuation [5]				
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213 - 291 MHz	30	46.6	-	dB
291 - 2000 MHz	40	70	-	dB
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Optimal Load Impedance [6]	-	50	-	Ω

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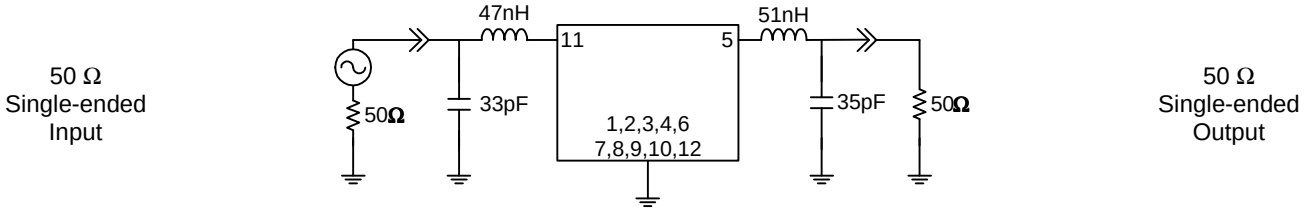
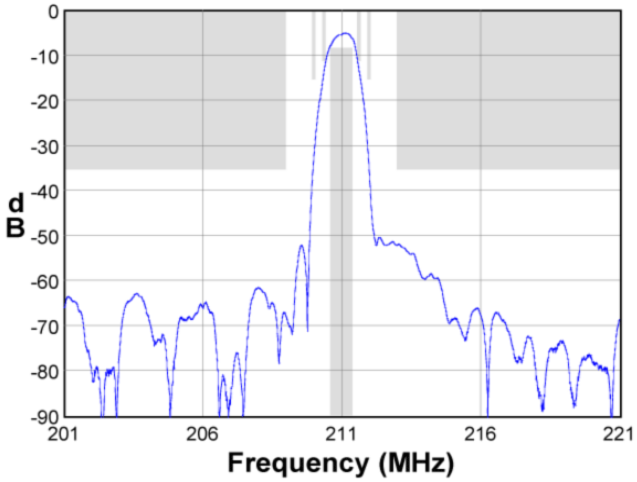
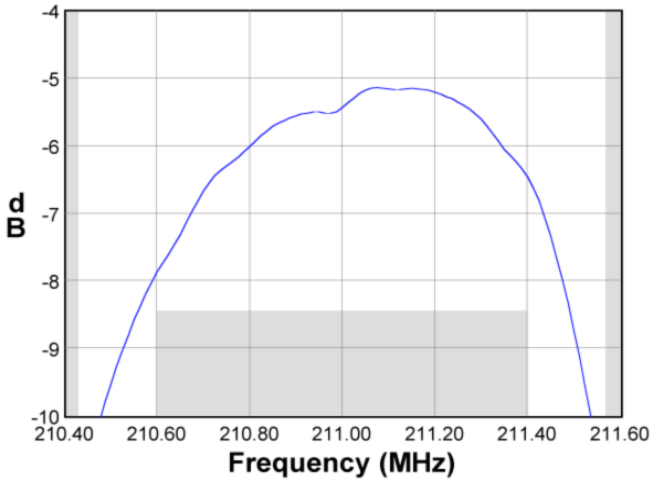


Typical Performance (at room temperature)

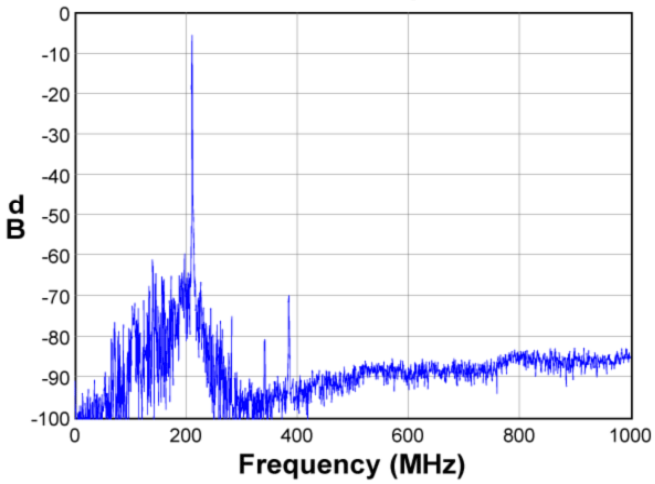
Frequency Response



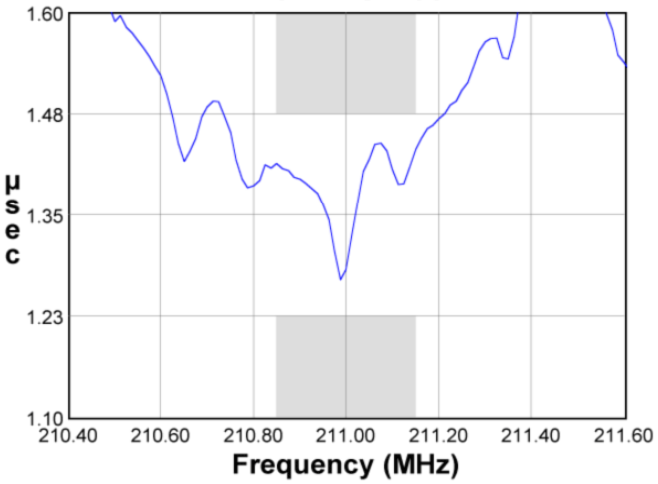
Passband Response



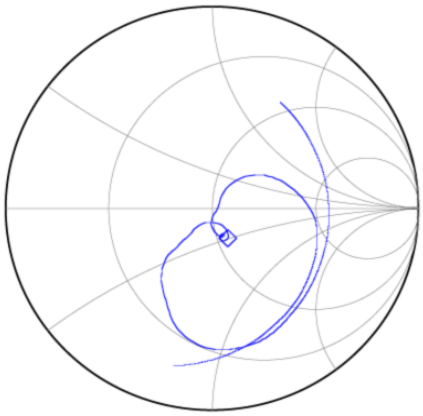
Wideband Response



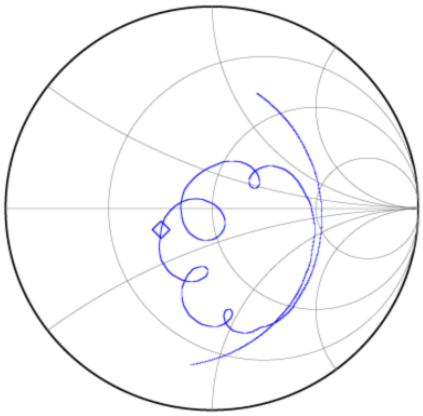
Group Delay Ripple



Input Smith Chart



Output Smith Chart



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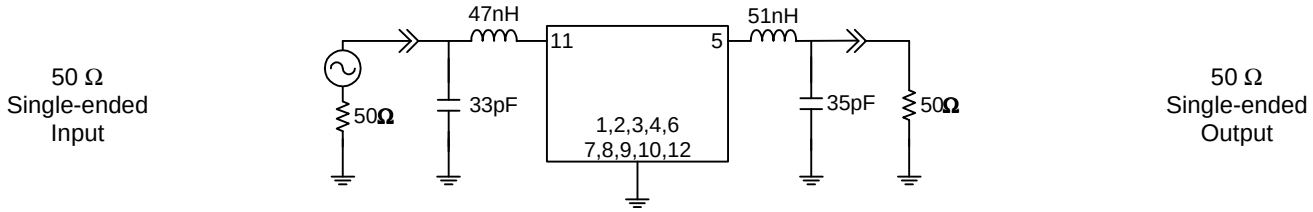
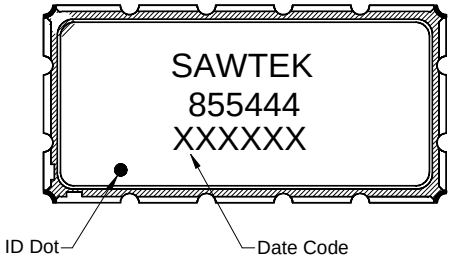
Matching Schematics

Actual matching values may vary due to PCB layout and parasitics

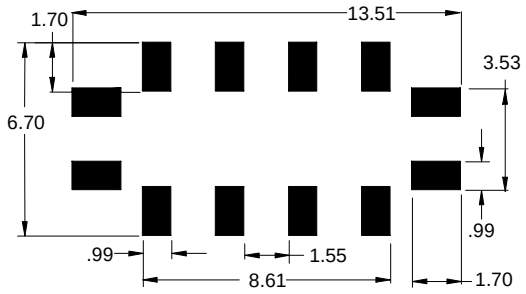


Marking



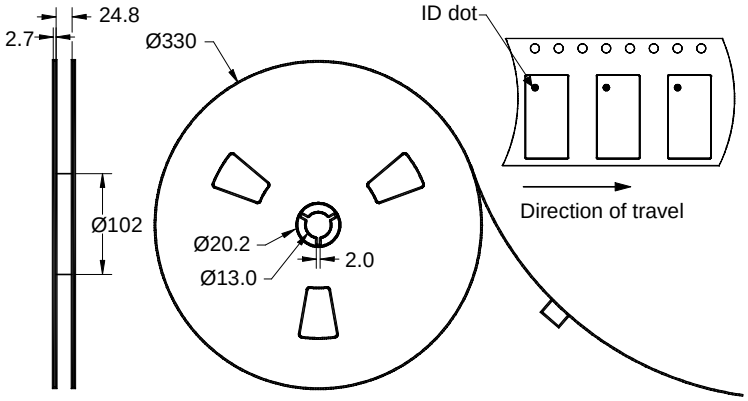
The date code consists of: day of the current year (Julian, 3 digits), last digit of the year (1 digit) and hour (2 digits)

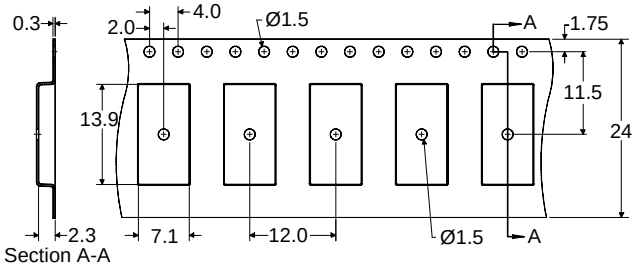
PCB Footpint



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

Tape and Reel





Dimensions shown are nominal in millimeters
Packaging quantity: 2000 units/reel

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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 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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