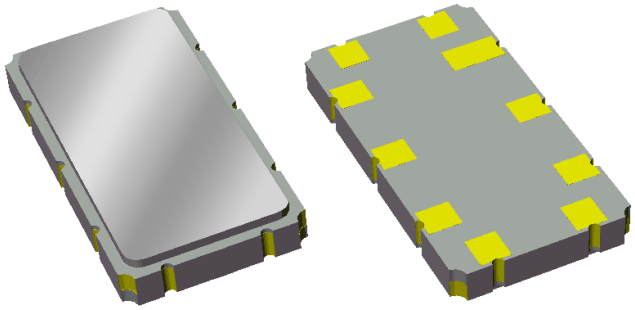
TriQuint SEMICONDUCTOR

Data Sheet

Part Number 856444
125 MHz SAW Filter

Features

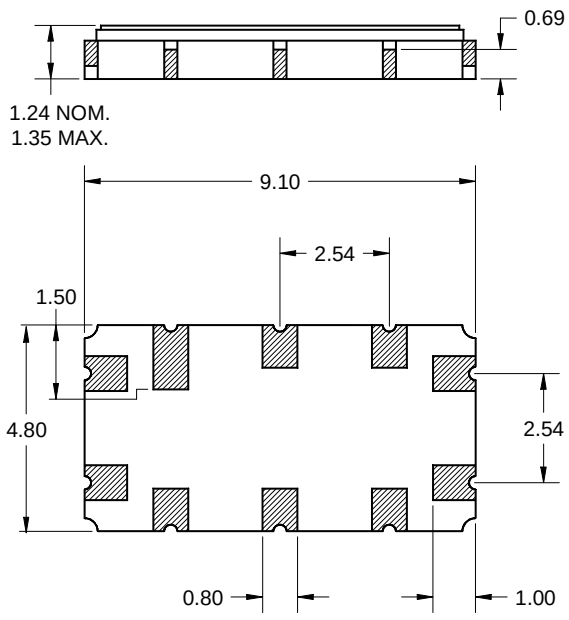
- For GSM/EDGE applications
- Usable bandwidth 400 KHz
- Low loss
- Single-ended and differential operation
- Ceramic Surface Mount Package (SMP)
- Hermetic
- RoHS compliant (2002/95/EC), Pb-free



Package

Surface Mount 9.10 x 4.80 x 1.24 mm

SMP–35C

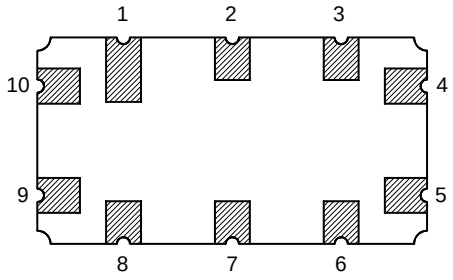


Dimensions shown are nominal in millimeters
All tolerances are ±0.15mm except overall length and width +0.10mm/-0.10mm

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
10	Input
9	Input Return
5	Output
4	Output Return
1,2,3,6,7,8	Case Ground

Electrical Specifications [1]

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

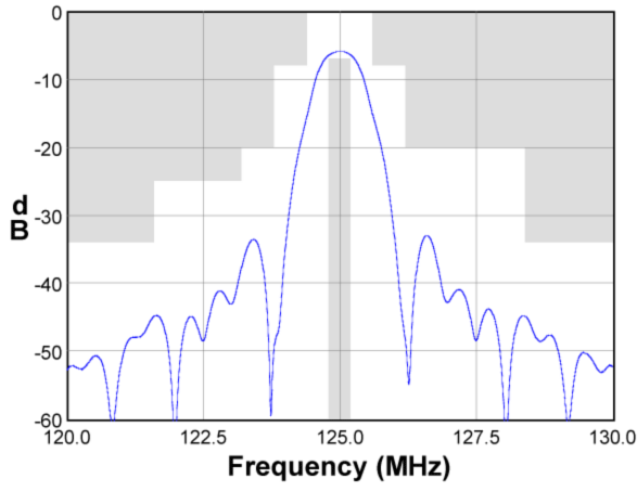
Parameter [3]	Minimum	Typical [4]	Maximum	Unit
Center Frequency	-	125	-	MHz
Insertion Loss at Fo	4	5.9	7	dB
1 dB Lower Frequency	-	124.73	124.8	MHz
1 dB Upper Frequency	125.2	125.26	-	MHz
8 dB Lower Frequency	124.4	124.43	-	MHz
8 dB Upper Frequency	-	125.55	125.6	MHz
20 dB Lower Frequency	123.8	124.12	-	MHz
20 dB Upper Frequency	-	125.88	126.2	MHz
Amplitude Variation				
124.8 - 125.2 MHz	-	0.55	1.0	dB p-p
Passband Ripple	-	0.01	0.2	dB
Group Delay Variation				
124.8 - 125.2 MHz	-	68	300	nsec
124.9 - 125.1 MHz	-	37	100	nsec
Absolute Delay				
124.8 - 125.2 MHz	0.7	0.93	1.7	µsec
Absolute Attenuation				
10.0 - 112.0 MHz	55	70	-	dB
112.0 - 115.5 MHz	43	65	-	dB
115.5 - 119.0 MHz	40	59	-	dB
119.0 - 121.6 MHz	34	45	-	dB
121.6 - 123.2 MHz	25	37	-	dB
123.2 - 123.8 MHz	20	33	-	dB
126.2 - 126.8 MHz	20	33	-	dB
126.8 - 128.4 MHz	25	37	-	dB
128.4 - 131.0 MHz	34	45	-	dB
131.0 - 134.5 MHz	40	59	-	dB
134.5 - 138.0 MHz	43	68	-	dB
138.0 - 450.0 MHz	55	58	-	dB
Input/Output VSWR				
124.8 - 125.2 MHz	-	1.3	2.3	-
Source Impedance [5]	-	50	-	Ω
Load Impedance [5]	-	50	-	Ω

Notes:

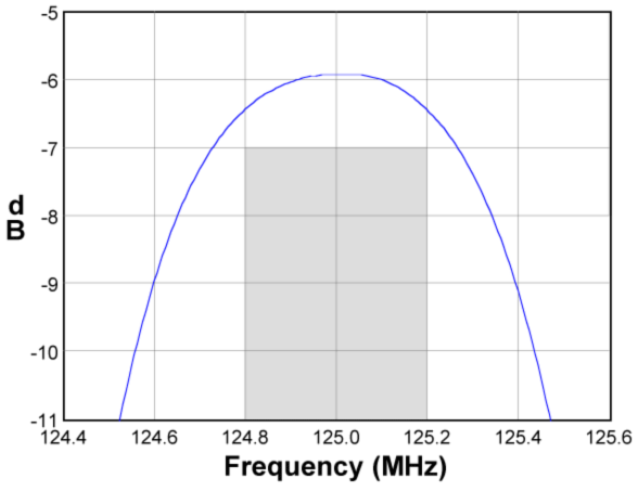
1. All specifications are based on the test circuit shown on page 4
2. In production, devices will be tested at room temperature to a guardbanded specification to ensure electrical compliance over temperature
3. Electrical margin has been built into the design to account for the variations due to temperature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

Typical Performance (at room temperature)

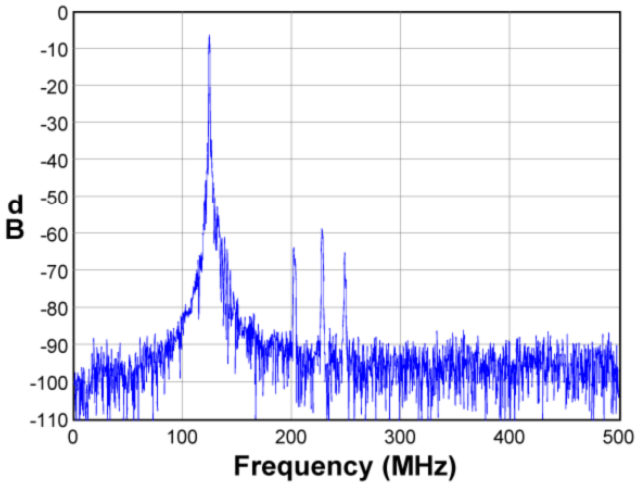
Frequency Response



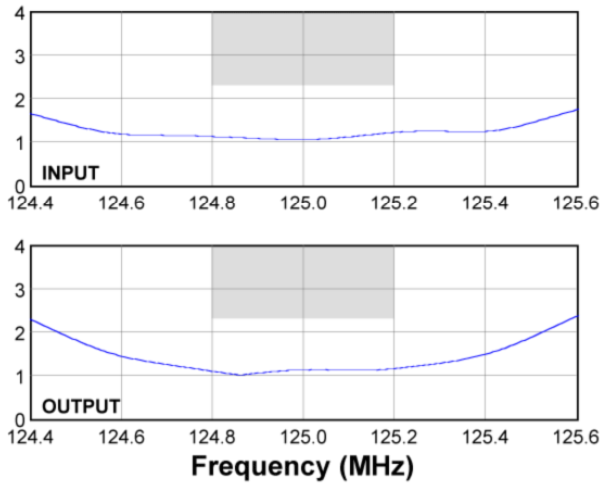
Passband Response



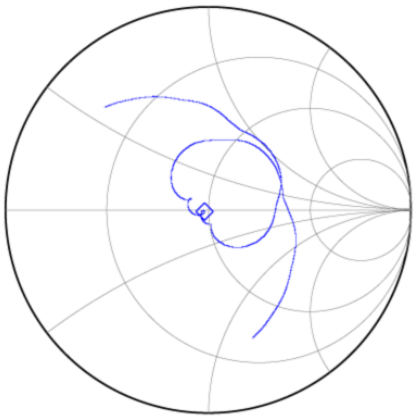
Wideband Response



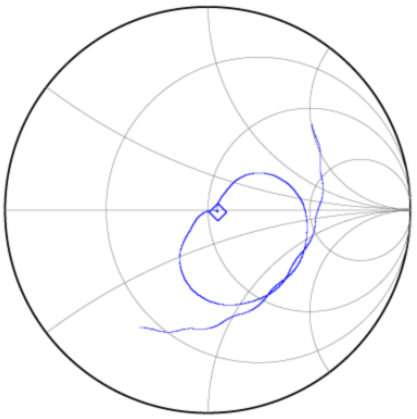
Input/Output VSWR



Input Smith Chart



Output Smith Chart



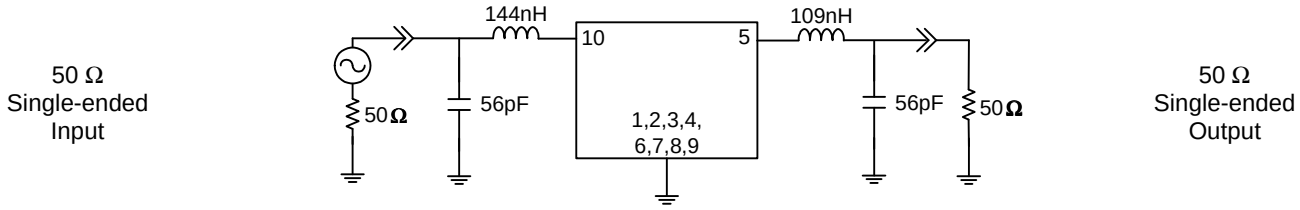
TriQuint SEMICONDUCTOR

Data Sheet

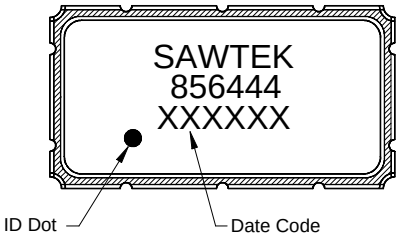
Part Number 856444
125 MHz SAW Filter

Matching Schematics

Actual matching values may vary due to PCB layout and parasitics

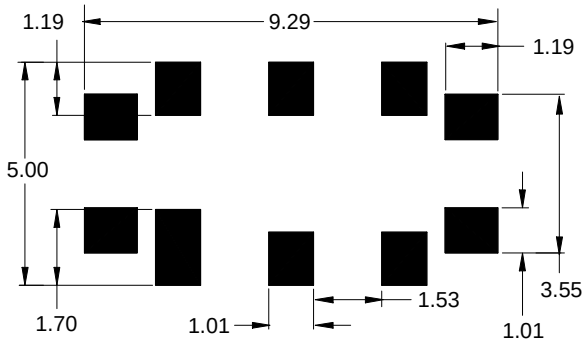


Marking



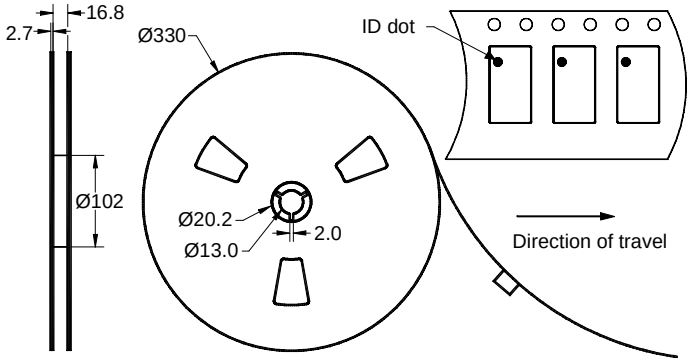
The date code consists of: day of the current year (Julian, 3 digits), last digit of the year (1 digit) and hour (2 digits)

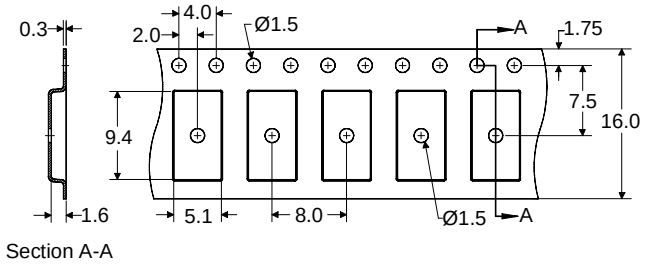
PCB Footprint



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

Tape and Reel





Section A-A

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

TriQuint SEMICONDUCTOR

Data Sheet

Part Number 856444
125 MHz SAW Filter

Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Unit
Operating Temperature Range	T	-10	+85	^{o}C
Storage Temperature Range	T_{stg}	-40	+125	^{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

TriQuint SEMICONDUCTOR
PO Box 609501
Orlando, FL 32860-9501
USA

Phone: +1 (407) 886-8860
Fax: +1 (407) 886-7061
Email: info-product@tqs.com
Web: www.triquint.com

Or contact one of our worldwide Network of sales offices, Representatives or distributors