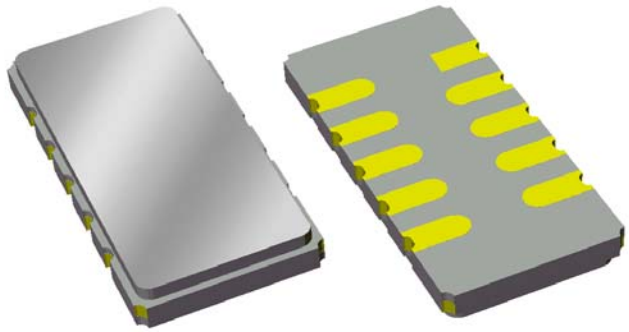
SAWTEK a TriQuint company

Preliminary Data Sheet

Part Number 856541
201 MHz SAW Filter

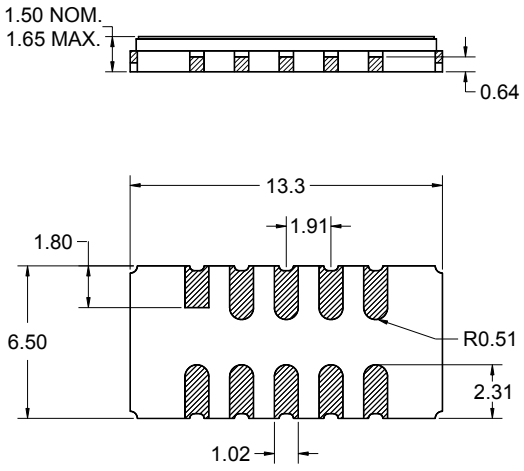
Features

- For GSM and EDGE applications
- Usable bandwidth of 0.22 MHz
- Typical 1 dB bandwidth of 0.34 MHz
- Low loss
- High attenuation
- Balanced operation at 200Ω or Single-ended operation at 50Ω (different matching required)
- Ceramic Surface Mount Package (SMP)
- Hermetic
- RoHS compliant (2002/95/EC), Pb-free



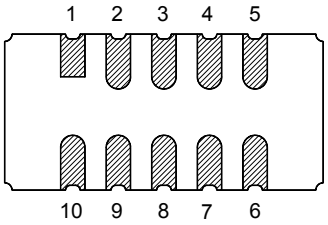
Package

Surface Mount 13.3 x 6.50 x 1.50 mm



Pin Configuration

Bottom View



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

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Electrical Specifications [1]

Operating Temperature Range: [2] 0 to +70 °C

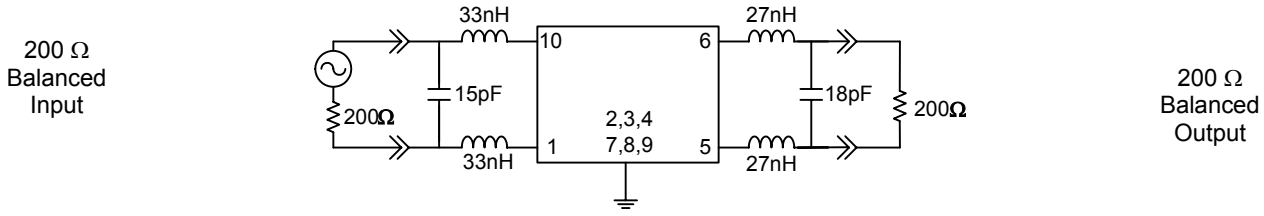
Parameter [3]	Minimum	Typical	Maximum	Unit
Center Frequency (f_c)	-	201	-	MHz
Insertion Loss at 201 MHz	-	6.1	7	dB
1 dB Lower Bandedge	-	200.83	200.89	MHz
1 dB Upper Bandedge	201.11	201.17	-	MHz
Amplitude Variation [4]				
200.89 - 201.11 MHz	-	0.6	1	dB p-p
Absolute Group Delay at f_c	2.05	2.3	2.55	µs
Group Delay Variation				
200.89 - 201.11 MHz	-	0.8	1.5	µs
Stopband Attenuation [5]				
fc ± 0.3 MHz to fc ± 0.4 MHz	16	25	-	dB
fc ± 0.4 MHz to fc ± 0.6 MHz	27	29	-	dB
fc ± 0.6 MHz to fc ± 0.8 MHz	28	32	-	dB
fc ± 0.8 MHz to fc ± 1.5 MHz	36	40	-	dB
fc ± 1.5 MHz to fc ± 35 MHz	38	40	-	dB
Source Impedance (Balanced) [6]	-	200	-	Ω
Load Impedance (Balanced) [6]	-	200	-	Ω

Notes:

1. All 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 temperature drift and manufacturing tolerances
4. Amplitude variation is defined as the difference between the lowest loss and the highest loss within defined frequency points
5. Referenced to insertion loss at 201 MHz
6. This is the optimum impedance in order to achieve the performance shown

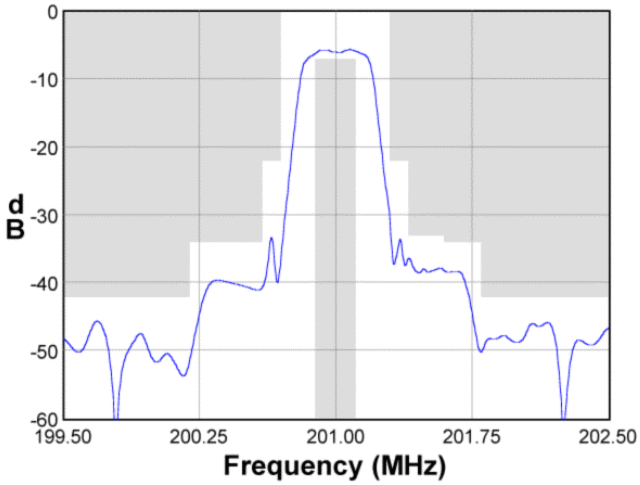
Test Circuit:

Actual matching values may vary due to PCB layout and parasitics

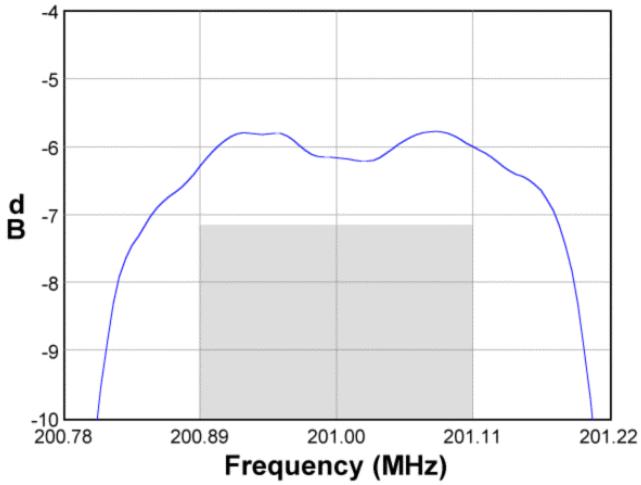


Typical Performance (at +25°C)

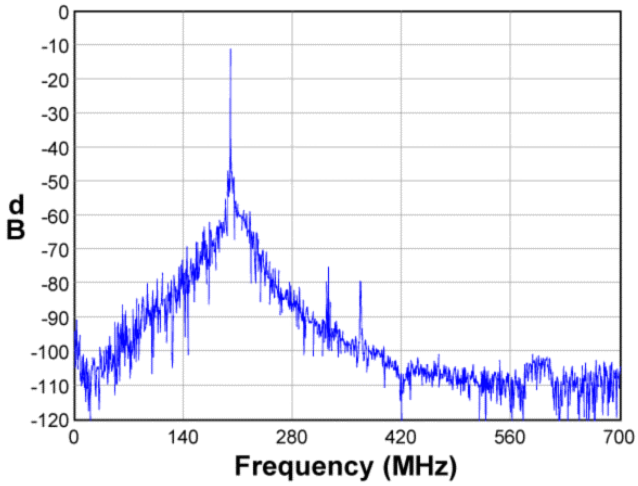
Frequency Response



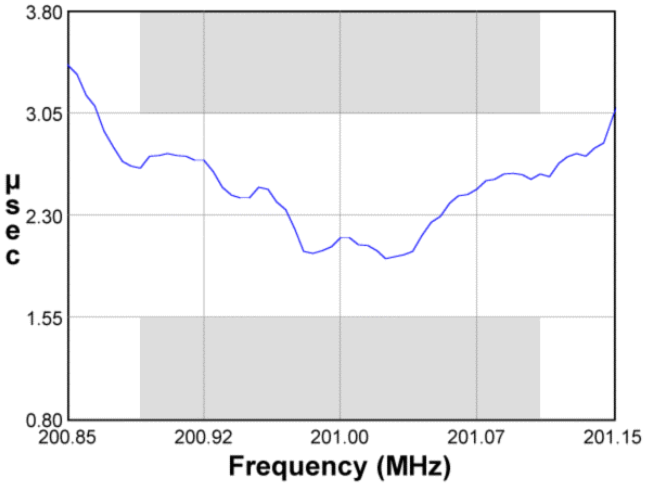
Passband Response



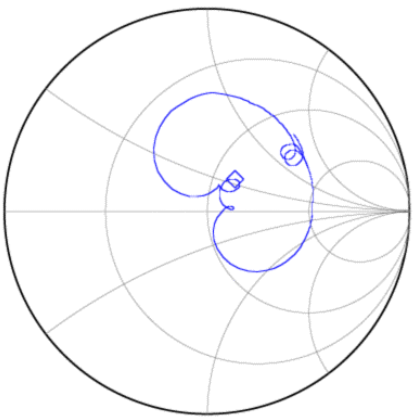
Wideband Response



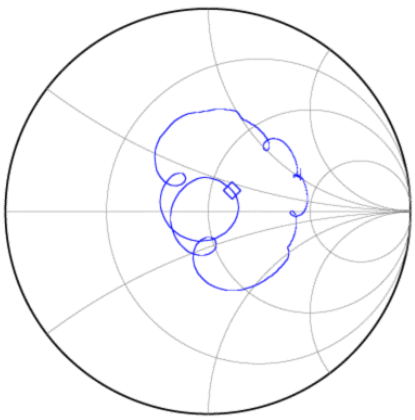
Group Delay Variation



Input Smith Chart



Output Smith Chart



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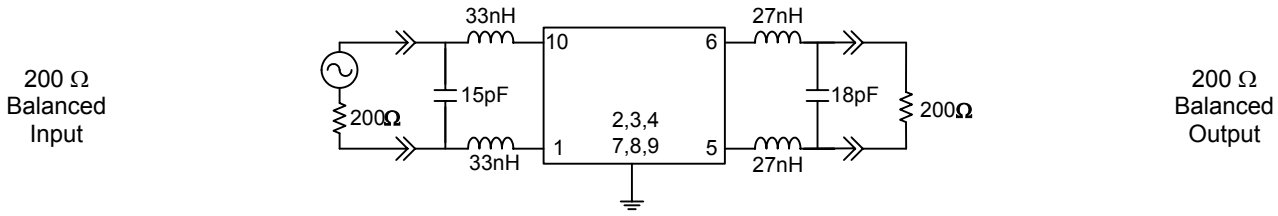
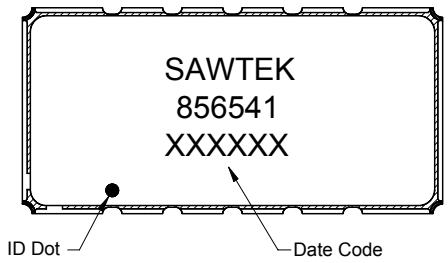
Matching Schematics

Actual matching values may vary due to PCB layout and parasitics

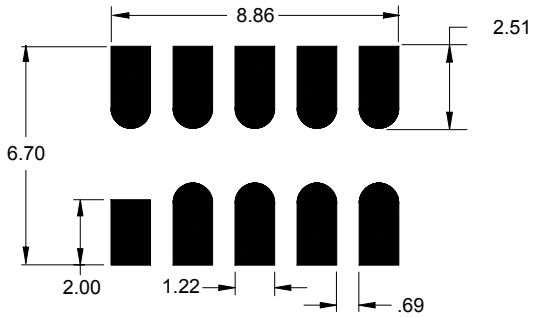


Marking



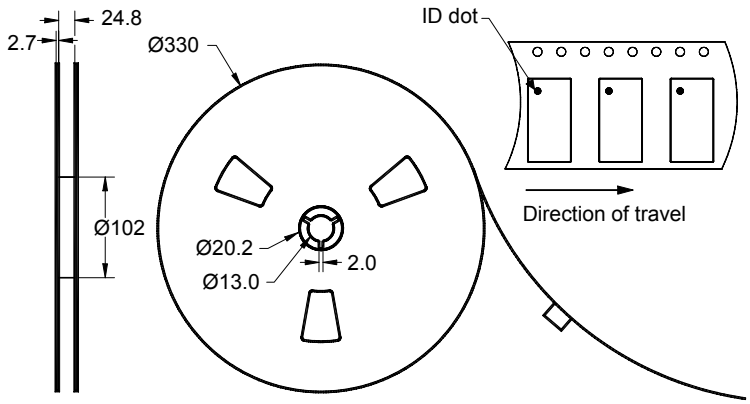
The date code consists of: day of the current year (Julian, 3 digits), last digit of the year (1 digit) and hour (2 digits)

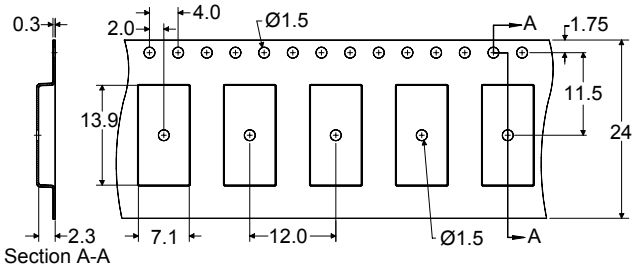
PCB Footprint



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

Tape and Reel





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

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Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Unit
Operating Temperature Range	T	0	+70	°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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Or contact one of our worldwide Network of sales offices, representatives or distributors