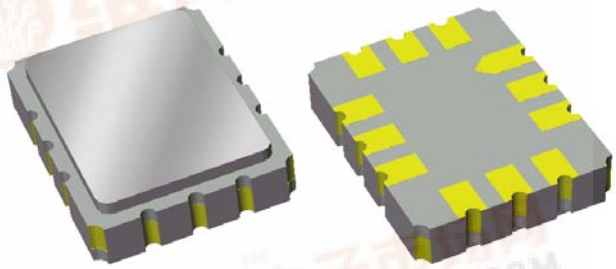
SAWTEK a TriQuint company

Part Number 855915
249.6 MHz SAW Filter

Data Sheet

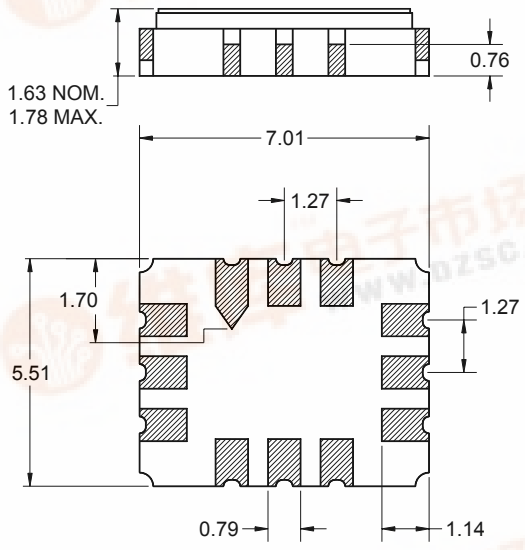
Features

- For 3G applications
- Usable bandwidth of 3.84 MHz
- High attenuation
- Single-ended operation at 50Ω
- Ceramic Surface Mount Package (SMP)
- Small size



Package

Surface Mount 7.01 x 5.51 x 1.63 mm

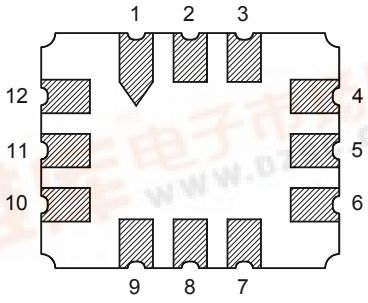


Dimensions shown are nominal in millimeters
All tolerances are ±0.15mm except overall length and width ±0.13mm

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

Pin Configuration

Bottom View



Pin No.	Description
4	Output
10	Input
1,2,3,5,6	Case Ground
7,8,9,11,12	Case Ground

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Electrical Specifications [1]

Temperature Range: [2] -10 to +80 °C

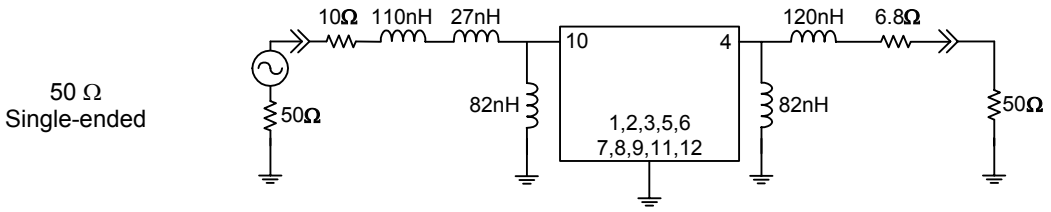
Parameter [3]	Minimum	Typical	Maximum	Unit
Center Frequency	-	249.6	-	MHz
Minimum Insertion Loss at 249.6 MHz	-	16.11	20	dB
1 dB Lower Frequency [4]	-	246.98	247.68	MHz
1 dB Upper Frequency	251.52	251.89	-	MHz
1 dB Bandwidth	3.84	4.89	5	MHz
40 dB Lower Frequency [4]	244.1	244.27	-	MHz
40 dB Upper Frequency	-	254.41	255.1	MHz
40 dB Bandwidth	-	10.14	11	MHz
Passband Ripple 247.68 - 251.52 MHz	-	0.22	1	dB p-p
Group Delay Variation 247.68 - 251.52 MHz	-	27.15	50	nsec
Input VSWR 247.68 - 251.52 MHz	-	1.25:1	2.10:1	-
Output VSWR 247.68 - 251.52 MHz	-	1.34:1	2.10:1	-
Relative Attenuation [4]				
10 - 234.6 MHz	45	63.5	-	dB
264.6 - 450 MHz	45	55.63	-	dB
Source Impedance [5]	-	50	-	Ω
Load Impedance [5]	-	50	-	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 manufacturing tolerances
4. The attenuation measurements are referenced to average insertion loss over passband
5. 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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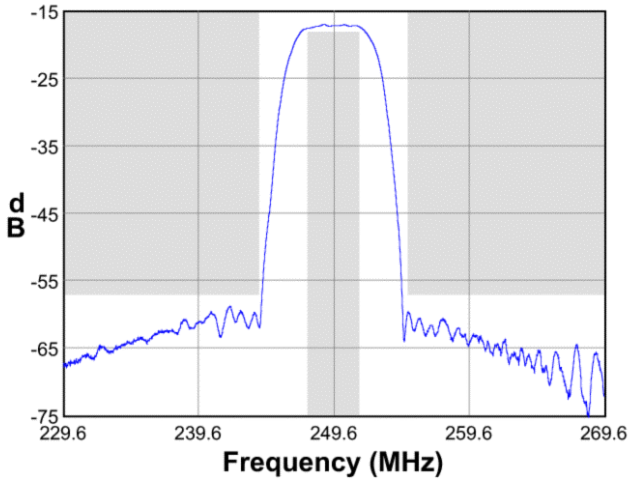
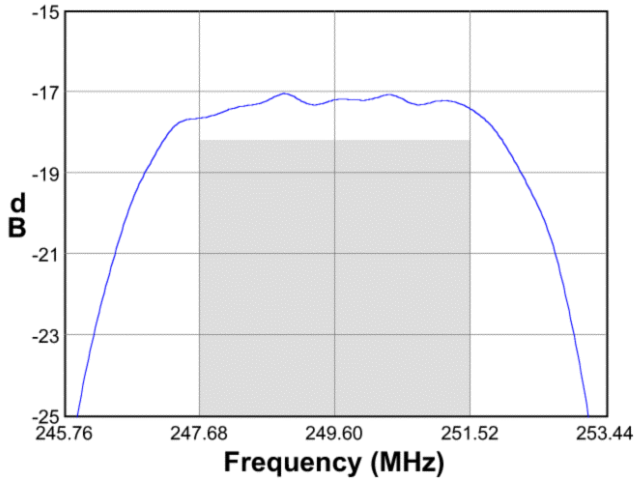
Typical Performance (at +25°C)

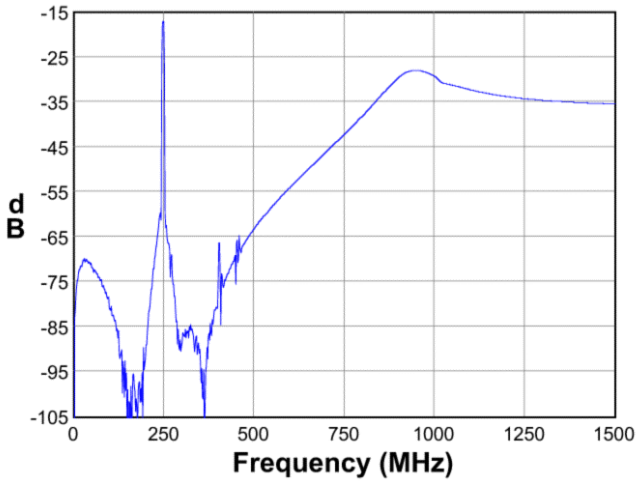
Frequency Response



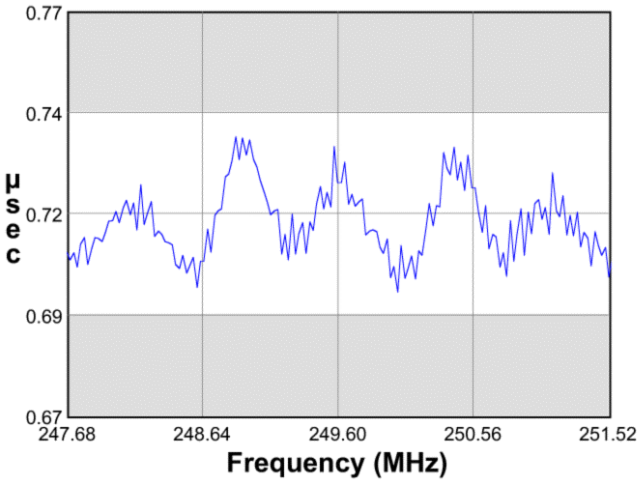
Passband Response



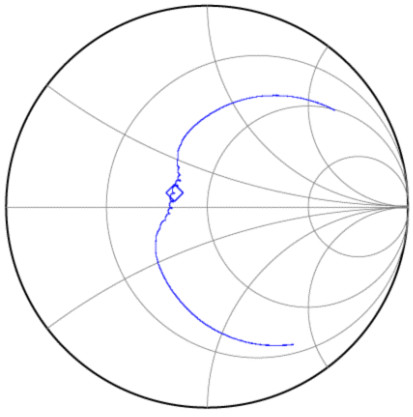
Wideband Response



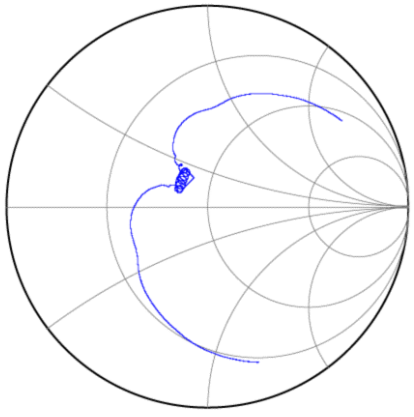
Group Delay Variation



Input Smith Chart



Output Smith Chart



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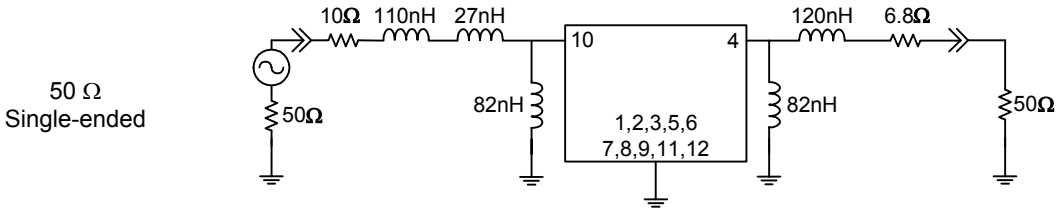
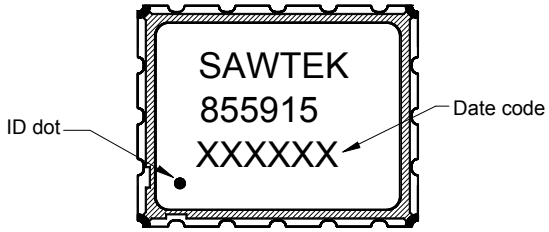
Matching Schematics

Actual matching values may vary due to PCB layout and parasitics

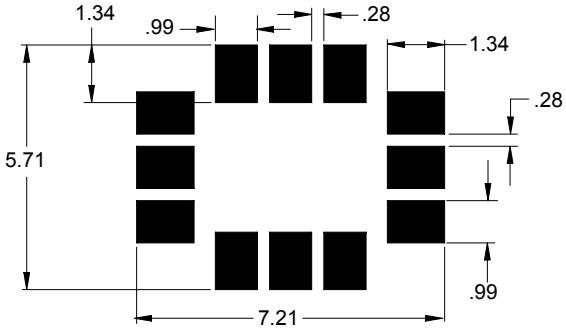


Marking



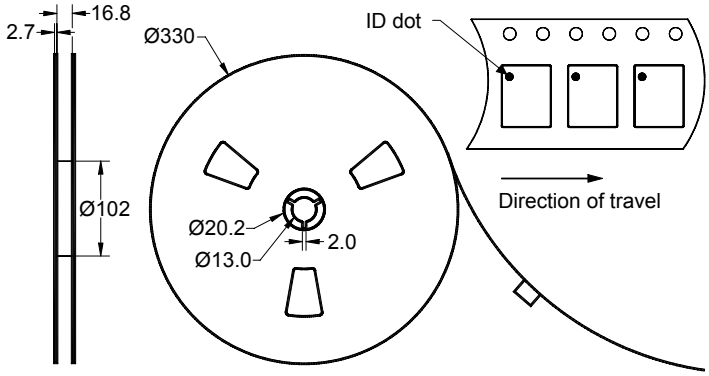
The date code consists of: day of the current year (Julian, 3 digits), last digit of the year (1 digit) and hour (2 digits)

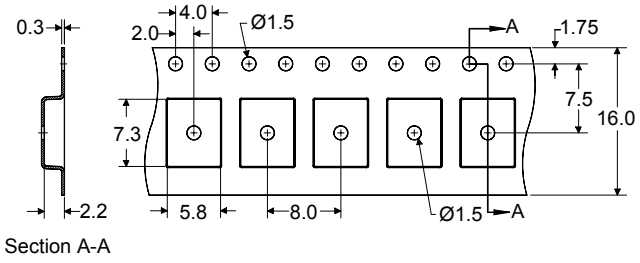
PCB Footprint



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

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Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Unit
Operating Temperature Range	T	-10	+80	°C
Storage Temperature Range	T_{stg}	-40	+85	°C
Input Power	P_{in}	-	+15	dBm

Warnings

- Electrostatic Sensitive Device (ESD) 
- Avoid ultrasonic exposure

Links to Additional Technical Information

PCB Layout Tips | Qualification Flowchart | Soldering Profile

S-Parameters | Other Technical Information

Contact Information

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