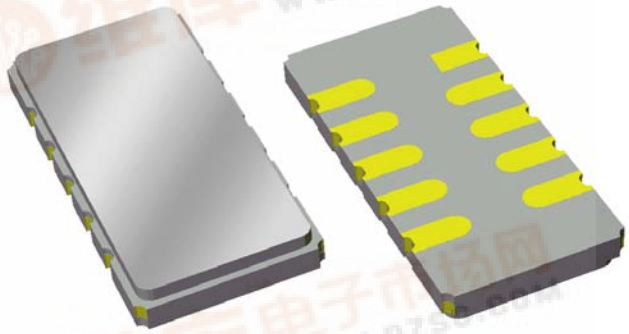
SAWTEK a TriQuint company

Part Number 855927
169 MHz SAW Filter

Preliminary Data Sheet

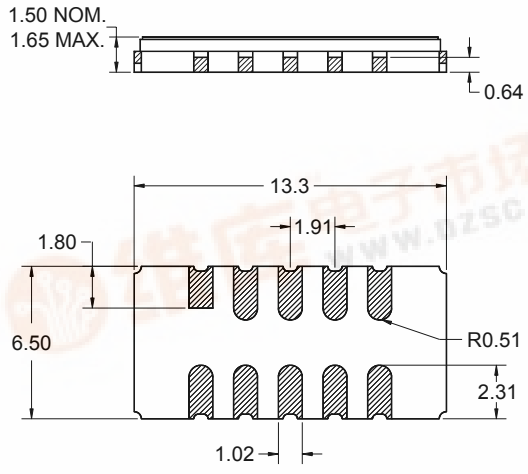
Features

- For UMTS basestation applications
- Usable bandwidth 4 MHz
- Low loss
- Single-ended to balanced operation
- Ceramic Surface Mount Package (SMP)



Package

Surface Mount 13.3 x 6.50 x 1.50 mm

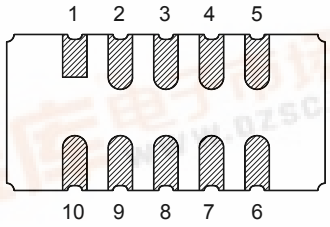


Dimensions shown are nominal in millimeters
All tolerances are ±0.15mm except overall length and width ±0.10mm

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

Pin Configuration

Bottom View



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

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Electrical Specifications [1]

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

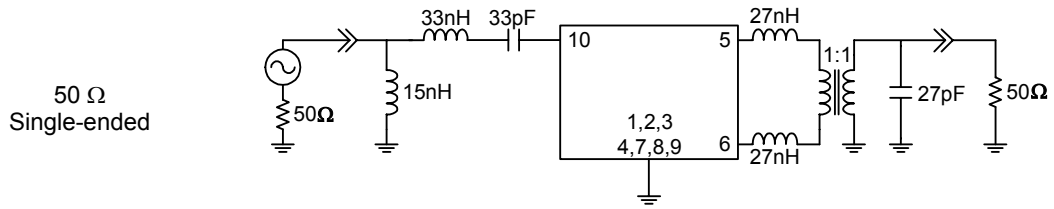
Parameter [3]	Minimum	Typical	Maximum	Unit
Center Frequency	-	169	-	MHz
Maximum Insertion Loss				
167 - 171 MHz	-	10.4	14	dB
10 dB Lower Bandedge	166	166.187	-	MHz
10 dB Upper Bandedge	-	171.860	172	MHz
25 dB Lower Bandedge	165.5	165.869	-	MHz
25 dB Upper Bandedge	-	172.147	172.5	MHz
40 dB Lower Bandedge	164	165.470	-	MHz
40 dB Upper Bandedge	-	172.695	174	MHz
Relative Attenuation [4]				
0.3 - 144 MHz	50	57	-	dB
194 - 500 MHz	50	61	-	dB
500 - 2000 MHz	40	50	-	dB
Amplitude Variation				
167 - 171 MHz	-	0.44	0.8	dB p-p
Group Delay Variation				
167 - 171 MHz	-	82	150	nsec
Phase Ripple				
167 - 171 MHz	-	3.6	6	deg
Input/Output VSWR				
167 - 171 MHz	-	1.4	2	-
Source Impedance [5]	-	50	-	Ω
Load Impedance [5]	-	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. All attenuation measurements are measure relative to maximum insertion loss
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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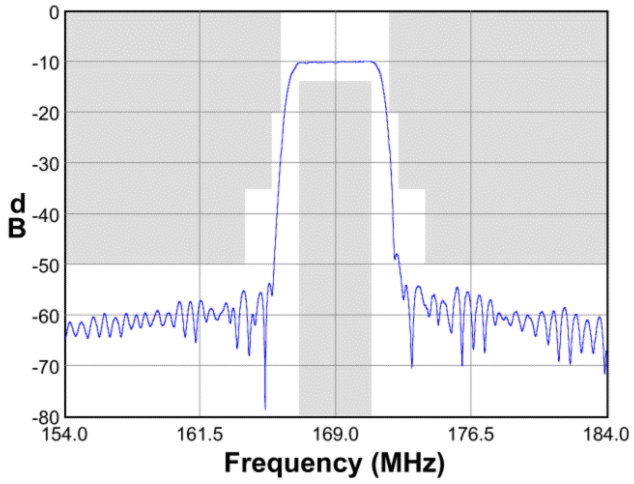
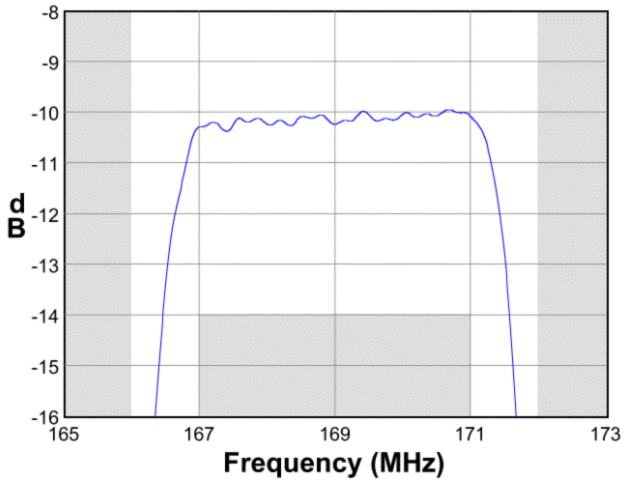
Typical Performance (at +25°C)

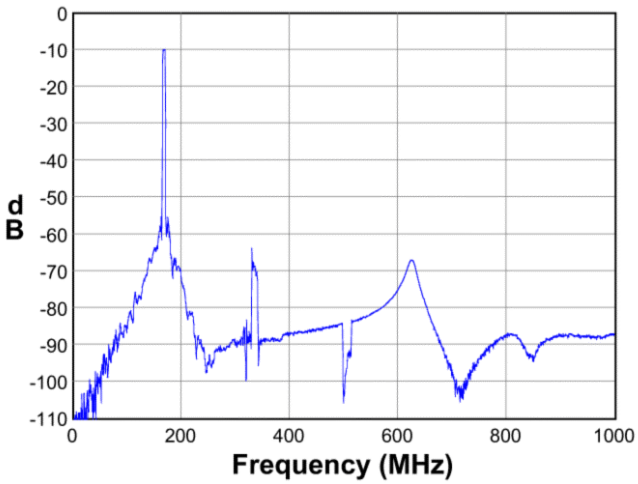
Frequency Response



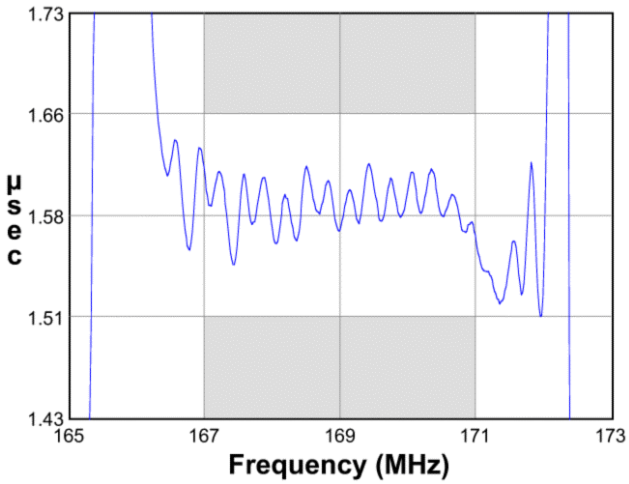
Passband Response



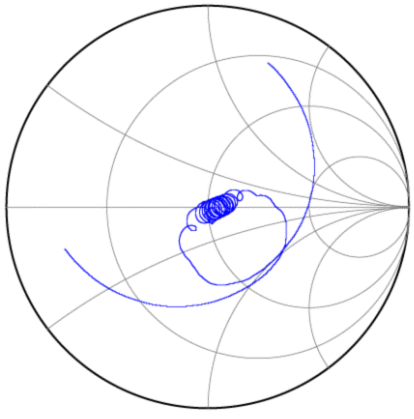
Wideband Response



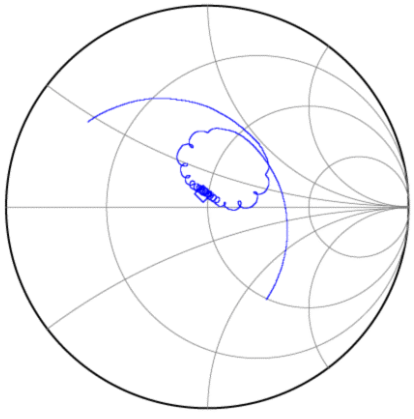
Group Delay Variation



Input Smith Chart



Output Smith Chart



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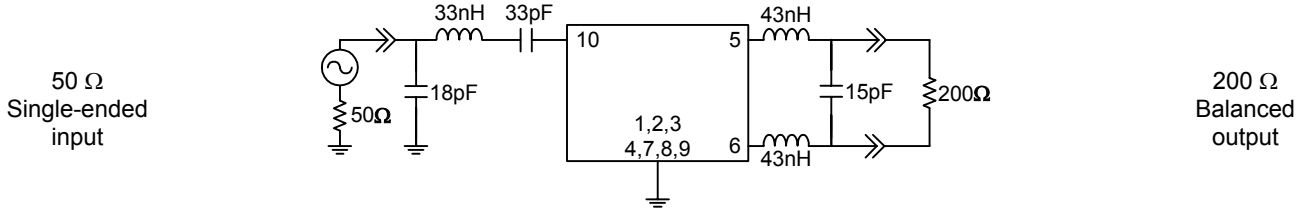
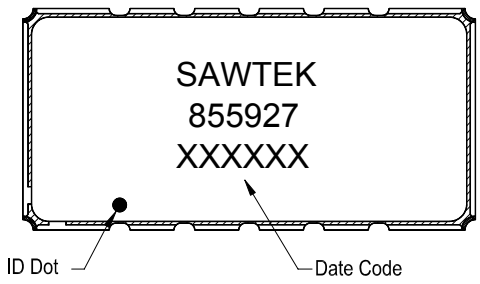
Matching Schematics

Actual matching values may vary due to PCB layout and parasitics

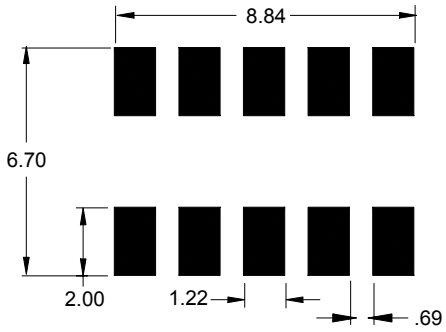


Marking



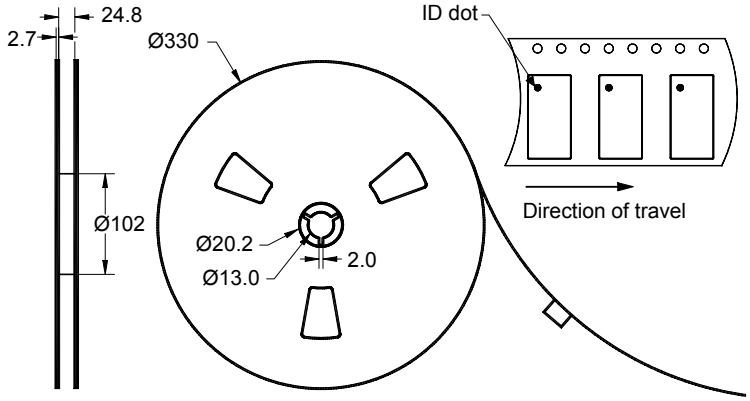
The date code consists of: JJJ = Julian day,
Y = last digit of year, M = manufacturing site code

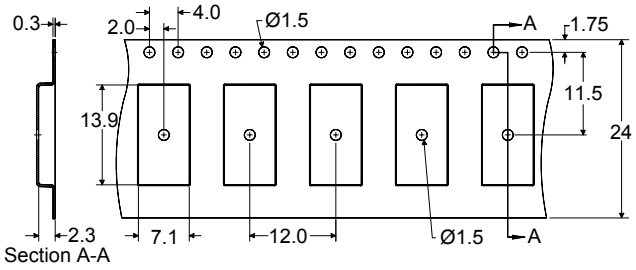
PCB Footprint



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	-10	+85	°C
Storage Temperature Range	T_{stg}	-40	+85	°C

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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