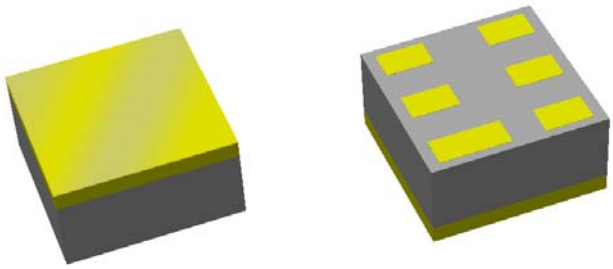
SAWTEK a TriQuint company

Data Sheet

Part Number 856441
881.5 MHz SAW Filter

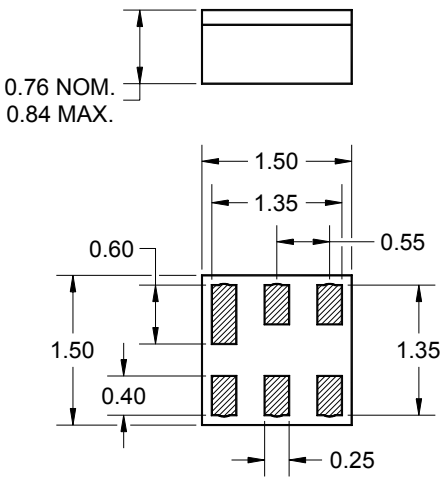
Features

- For GSM-850 applications
- Usable bandwidth of 25 MHz
- Compatible with leading chipset suppliers
- Ultra low loss
- Single-ended input, 50Ω
- Balanced output, 200Ω
- Chip Scale Package (CSP)
- Hermetic



Package

Surface Mount 1.50 x 1.50 x 0.76 mm

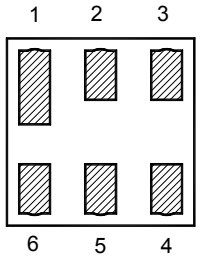


Dimensions shown are nominal in millimeters
All tolerances are ±0.10mm

Body: Al_2O_3 ceramic
Lid: *Kovar* or *Alloy 42*, *Au* over *Ni* plated
Terminations: *Au* plating 0.5 - 1.0μm,
over a 2 - 6μm *Ni* plating

Pin Configuration

Bottom View



Pin No.	Description
2	Input
4,6	Output
1,3,5	Case ground

Electrical Specifications [1]

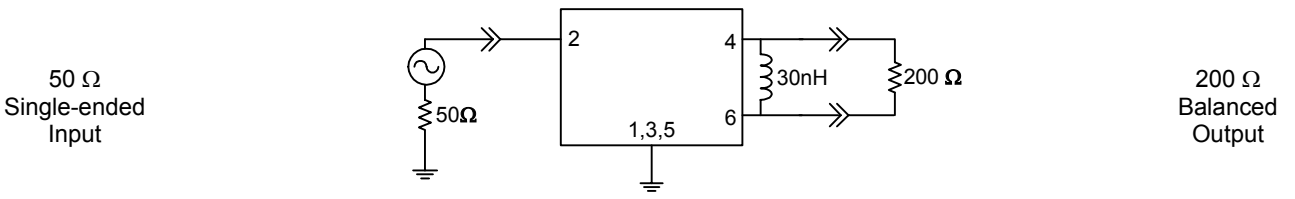
Operating Temperature Range: [2] +25 °C

Parameter [3]	Minimum	Typical	Maximum	Unit
Center Frequency	-	881.5	-	MHz
Maximum Insertion Loss				
869 - 894 MHz	-	1.2	1.5	dB
Amplitude Variation				
869 - 894 MHz	-	0.4	1.2	dB p-p
Absolute Attenuation				
10 - 824 MHz	30	42	-	dB
824 - 842 MHz	30	35	-	dB
842 - 849 MHz	22	24	-	dB
914 - 970 MHz	18	19.5	-	dB
970 - 2607 MHz	22	30	-	dB
2607 - 2682 MHz	41	52	-	dB
2682 - 4345 MHz	38	40	-	dB
4345 - 4470 MHz	37	55	-	dB
4470 - 6000 MHz	38	42	-	dB
Output Amplitude Balance ($\|S_{31}/S_{21}\|$)				
869 - 894 MHz	-1	0.7	1	dB
Output Phase Balance [$\Phi(S_{31})-\Phi S_{21}+180$]				
869 - 894 MHz	-10	7	10	degree
Input/Output VSWR				
869 - 894 MHz	-	1.7	2.5	
Source Impedance [4]	-	50	-	Ω
Load Impedance (Balanced) [4]	-	200||30nH	-	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. This is the optimum impedance in order to achieve the performance shown

Test Circuit:



SAWTEK a TriQuint company

Data Sheet

Part Number 856441
881.5 MHz SAW Filter

Electrical Specifications [1]

Operating Temperature Range: [2] -25 to +80 °C

Parameter [3]	Minimum	Typical	Maximum	Unit
Center Frequency	-	881.5	-	MHz
Maximum Insertion Loss				
869 - 894 MHz	-	1.2	1.9	dB
Amplitude Variation				
869 - 894 MHz	-	0.4	1.2	dB p-p
Absolute Attenuation				
10 - 824 MHz	30	42	-	dB
824 - 842 MHz	30	35	-	dB
842 - 849 MHz	22	24	-	dB
914 - 970 MHz	18	19.5	-	dB
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Input/Output VSWR				
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Source Impedance [4]	-	50	-	Ω
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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
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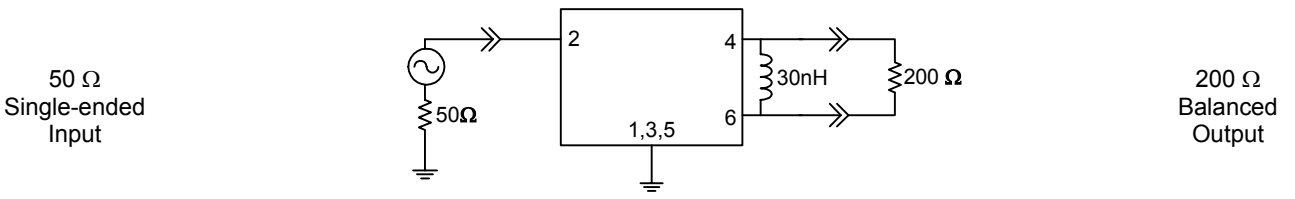
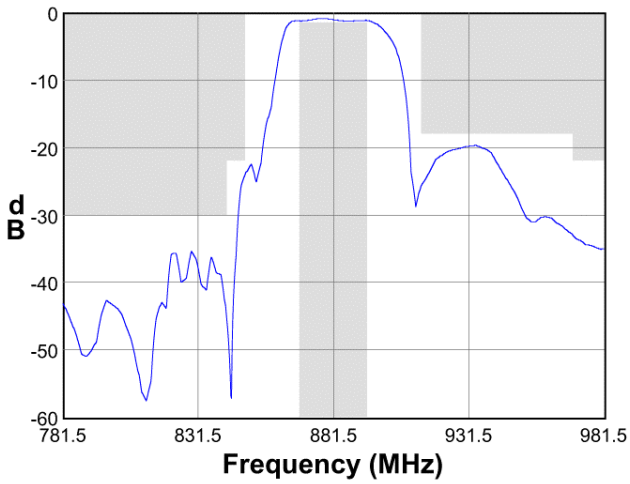
4. This is the optimum impedance in order to achieve the performance shown

Test Circuit:

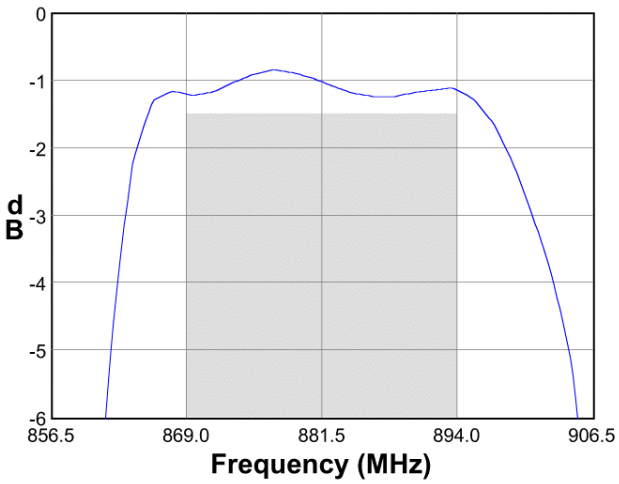


Typical Performance (at +25°C)

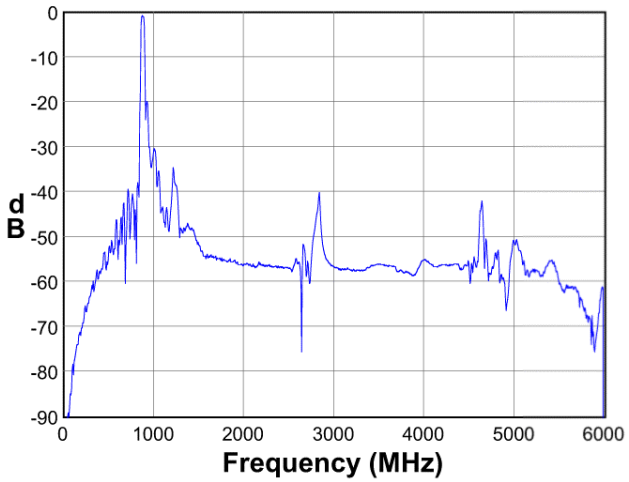
Frequency Response



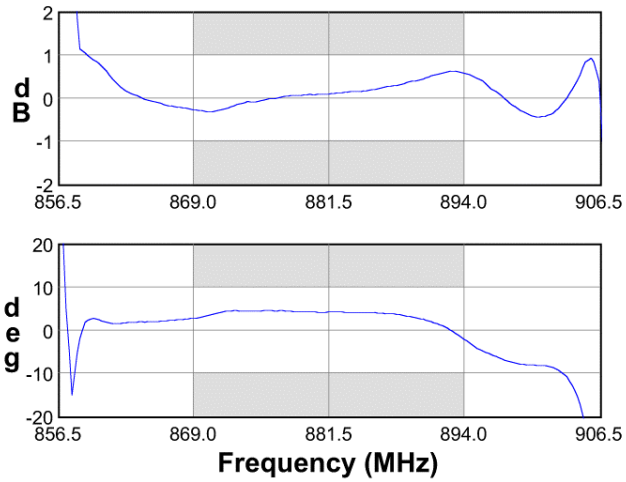
Passband Response



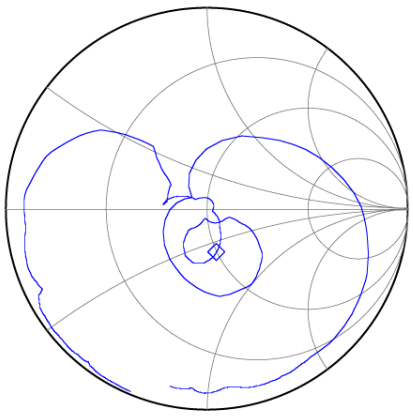
Wideband Response



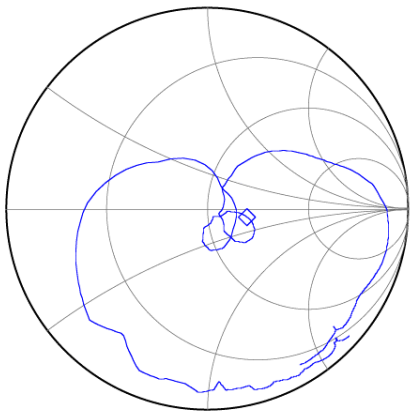
Amplitude/Phase Balance



Input Smith Chart



Output Smith Chart



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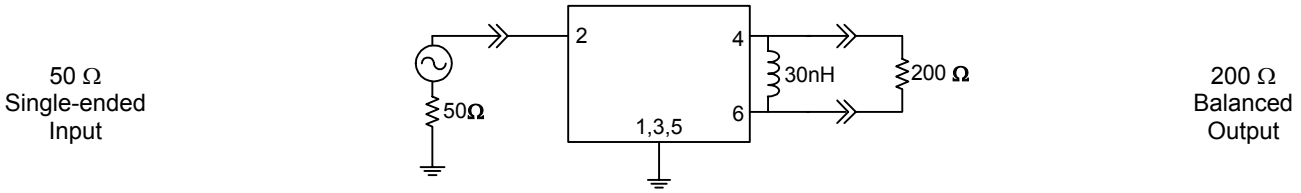
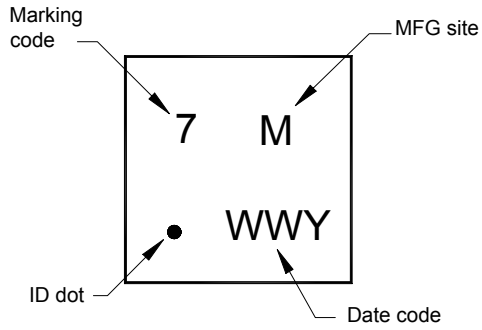
Matching Schematics

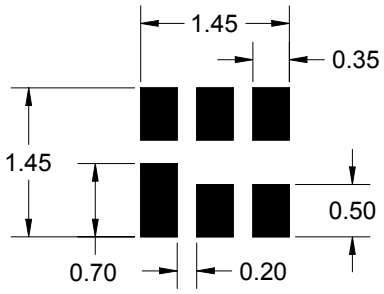


Marking



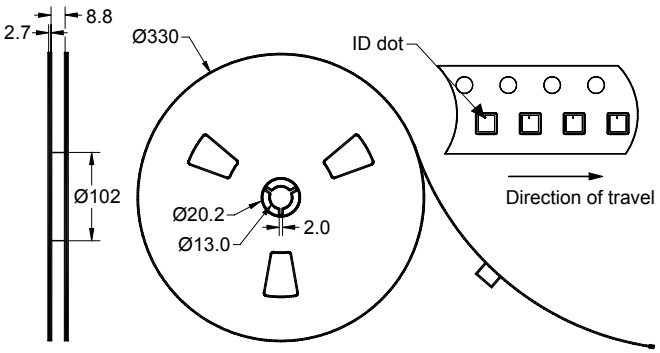
The date code consists of: WW = 2 digit week,
Y = last digit of year, M = manufacturing site code

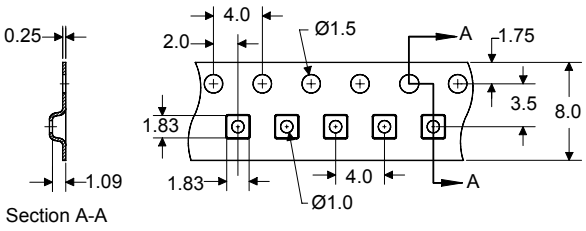
PCB Footprint



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

Tape and Reel





Dimensions shown are nominal in millimeters
Packaging quantity: 10000 units/reel

Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Unit
Operating Temperature Range	T	-25	+80	°C
Storage Temperature Range	T_{stg}	-40	+85	°C

Warnings

- Electrostatic Sensitive Device (ESD)
- Avoid ultrasonic exposure

Material Content

- Does not contain lead (Pb) or other RoHS restricted materials

Links to Additional Technical Information

PCB Layout Tips | Qualification Flowchart | Soldering Profile

S-Parameters | Other Technical Information

Contact Information

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