SAWTEK a TriQuint company

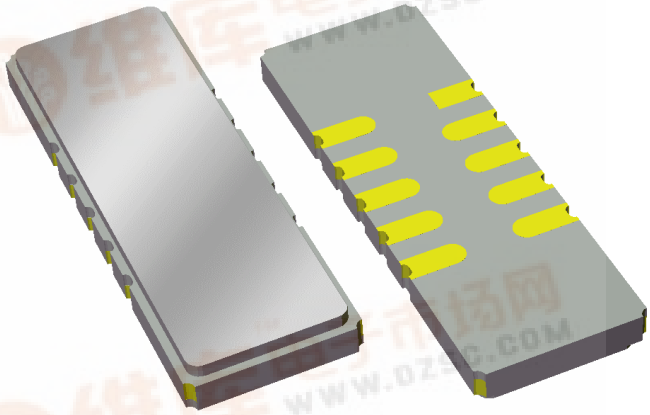
Part Number 855741

70 MHz SAW Filter

Data Sheet

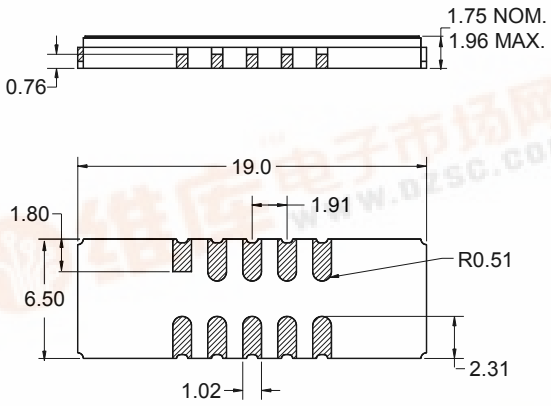
Features

- For broadband applications
- Typical 3dB bandwidth of 3.1 MHz
- High attenuation
- Single-ended operation
- Ceramic Surface Mount Package (SMP)
- Small size
- Replaces Sawtek P/N 851548 (BW 3dB=3 MHz)



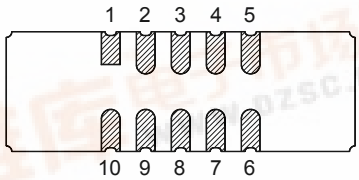
Package

Surface Mount 19 x 6.50 x 1.75 mm



Pin Configuration

Bottom View



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

Dimensions shown are nominal in millimeters
All tolerances are ±0.15mm except overall length and width +0.15mm/-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	-	70	-	MHz
Minimum Insertion Loss	-	23	25	dB
Lower 1 dB Bandedge[4]	-	68.61	68.72	MHz
Upper 1 dB Bandedge	71.28	71.45	-	MHz
Lower 3 dB Bandedge[4]	-	68.45	68.52	MHz
Upper 3 dB Bandedge	71.48	71.59	-	MHz
Lower 40 dB Bandedge[4]	67.77	67.86	-	MHz
Upper 40 dB Bandedge	-	72.14	72.23	MHz
Amplitude Variation				
68.72 - 71.28 MHz	-	0.4	1	dB p-p
Phase Linearity				
68.72 - 71.28 MHz	-	3.2	6	deg p-p
Group Delay Variation				
68.72 - 71.28 MHz	-	72	150	nsec
Absolute Delay	-	2.03	-	µsec
Relative Attenuation[4]				
10 - 30 MHz	50	61	-	dB
30 - 65 MHz	47	56	-	dB
75 - 125 MHz	47	57	-	dB
125 - 140 MHz	41	46	-	dB
140 - 200 MHz	50	60	-	dB
Source Impedance: [5]	-	50		Ω
Load Impedance: [5]	-	50		Ω
Substrate Material	-	$LiTaO_3$	-	-
Temperature Coefficient of Frequency	-	-23	-	ppm/°C

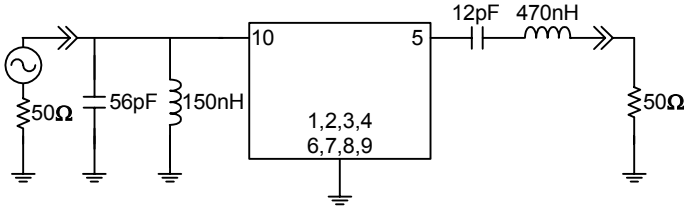
Notes:

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 measured relative to minimum 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

50 Ω
Single-ended



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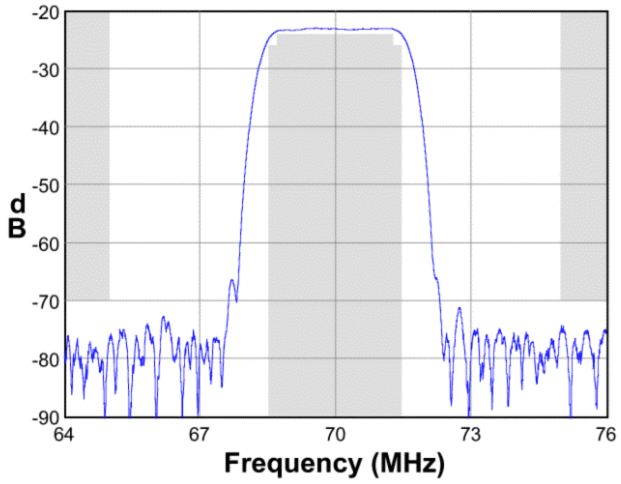
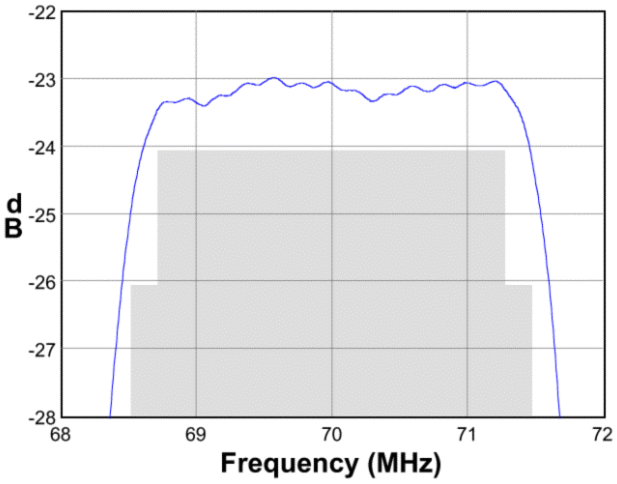
Typical Performance (at +25°C)

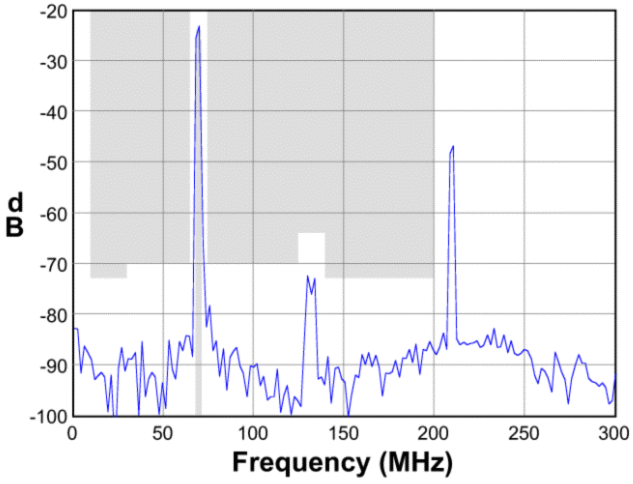
Frequency Response



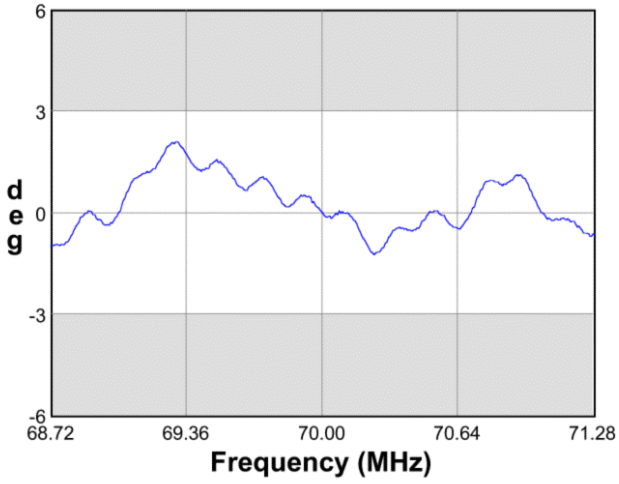
Passband Response



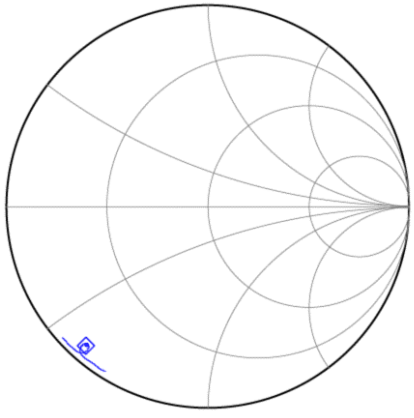
Wideband Response



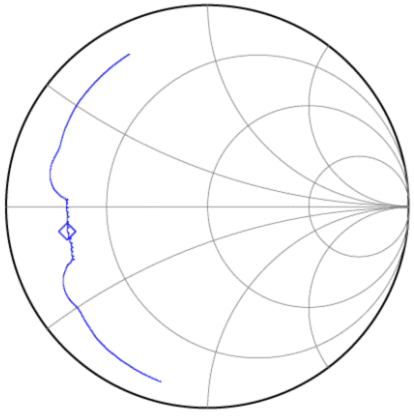
Phase Variation



Input Smith Chart



Output Smith Chart



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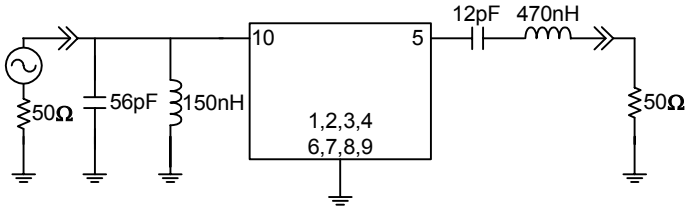
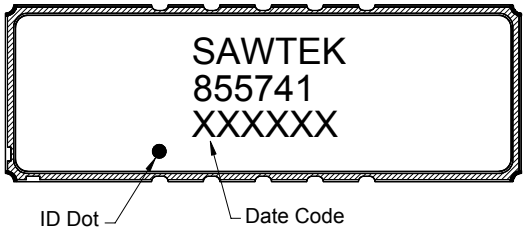
Matching Schematics

Actual matching values may vary due to PCB layout and parasitics

50 Ω
Single-ended

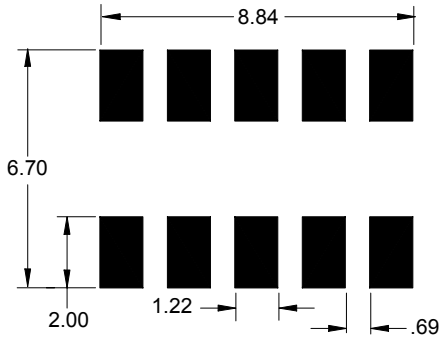


Marking



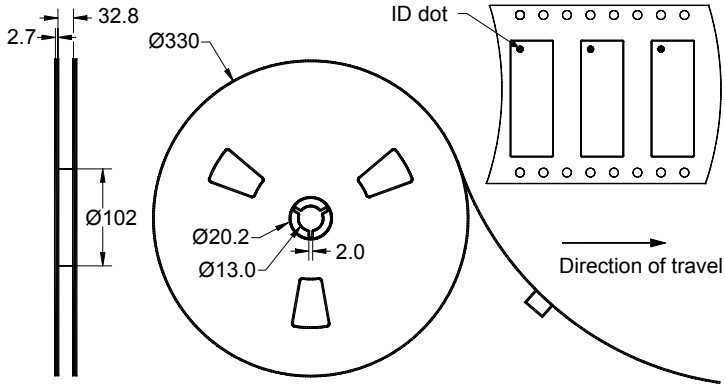
The date code consists of: JJJ = Julian day,
Y = last digit of year, M = manufacturing site code

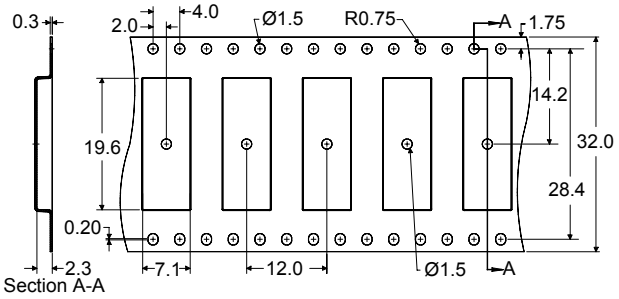
PCB Footprint



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	Typical	Maximum	Unit
Operating Temperature Range	T	0	+25	+70	°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

SAWTEK a TriQuint company
PO Box 609501
Orlando, FL 32860-9501
USA

Phone: +1 (407) 886-8860
Fax: +1 (407) 886-7061
Email: custservice@sawtek.com
Web: www.sawtek.com

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