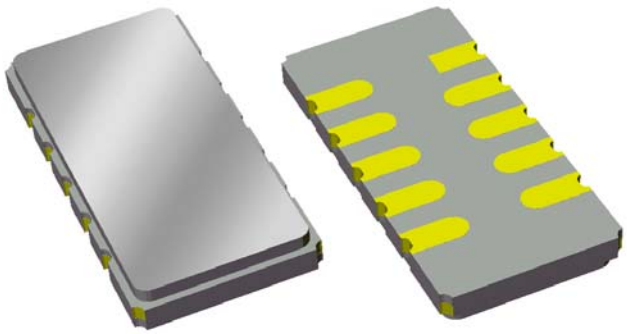
SAWTEK a TriQuint company

Data Sheet

Part Number 856071
140 MHz SAW Filter

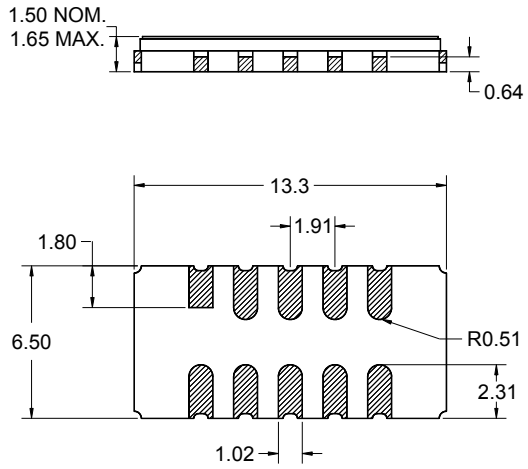
Features

- For broadband applications
- Typical 3 dB bandwidth of 16.2 MHz
- High attenuation
- Single-ended operation
- Ceramic Surface Mount Package (SMP)
- Small size
- Replaces Sawtek P/N 851927 (BW 3dB=16 MHz)



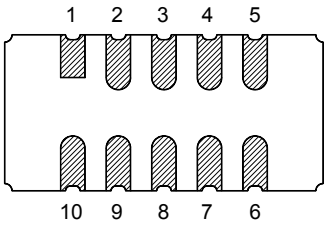
Package

Surface Mount 13.30 x 6.50 x 1.50 mm



Pin Configuration

Bottom View



Pin No.	Description
5	Output
10	Input
1,6	Ground
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

SAWTEK a TriQuint company

Data Sheet

Part Number 856071

140 MHz SAW Filter

Electrical Specifications [1]

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

Parameter [3]	Minimum	Typical	Maximum	Unit
Center Frequency	-	140	-	MHz
Minimum Insertion Loss	-	21.7	22.5	dB
Lower 1 dB Bandedge [4]	-	132.32	133.01	MHz
Upper 1 dB Bandedge	146.99	147.77	-	MHz
Lower 3 dB Bandedge [4]	-	131.93	132.6	MHz
Upper 3 dB Bandedge	147.4	148.14	-	MHz
Lower 40 dB Bandedge [4]	129.656	130.33	-	MHz
Upper 40 dB Bandedge	-	149.67	150.344	MHz
Amplitude Variation 133.01 - 146.99 MHz	-	0.44	0.87	dB
Phase Linearity 133.01 - 146.99 MHz	-	2.99	5.67	deg
Group Delay Variation 133.01 - 146.99 MHz	-	30	52	nsec
Absolute Delay	-	1.09	-	μsec
Relative Attenuation [4]				
15 - 100 MHz	53	58	-	dB
100 - 125 MHz	49.5	53	-	dB
155 - 175 MHz	46	50	-	dB
175 - 270 MHz	47.5	55	-	dB
270 - 280 MHz	38	46	-	dB
280 - 350 MHz	49	57	-	dB
Source Impedance [5]	-	50	-	Ω
Load Impedance [5]	-	50	-	Ω
Substrate Material	-	YZ $LiNbO_3$	-	-
Temperature Coefficient of Frequency	-	-94	-	ppm/°C

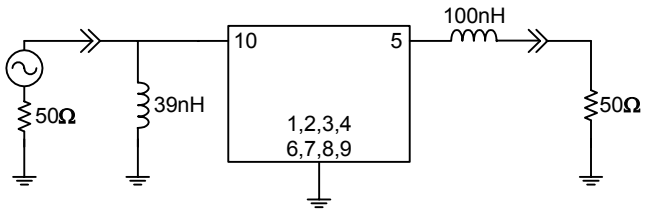
Notes:

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:

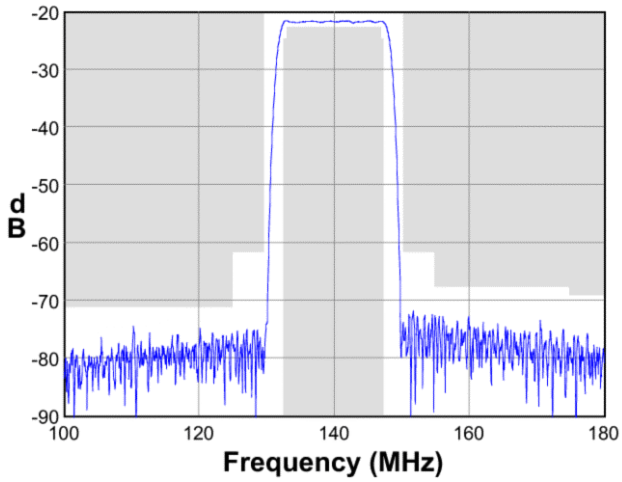
Actual matching values may vary due to PCB layout and parasitics

50Ω
Single-ended

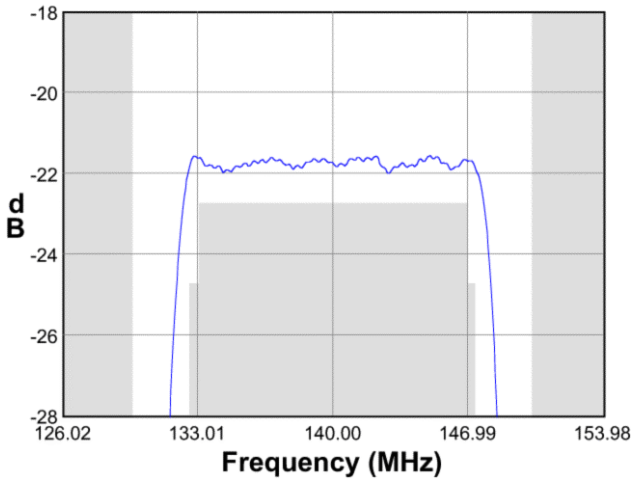


Typical Performance (at +25°C)

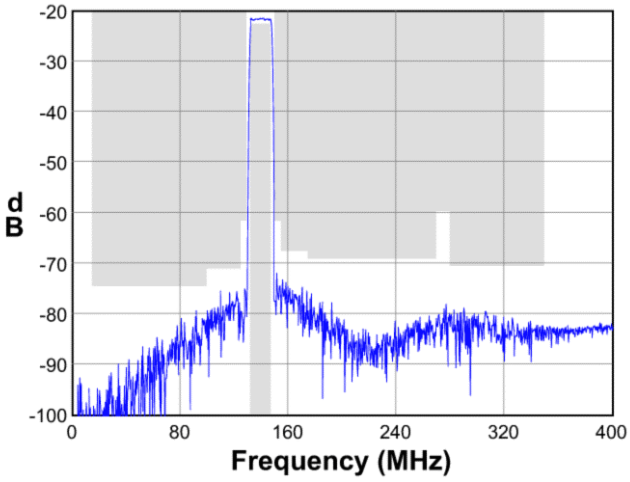
Frequency Response



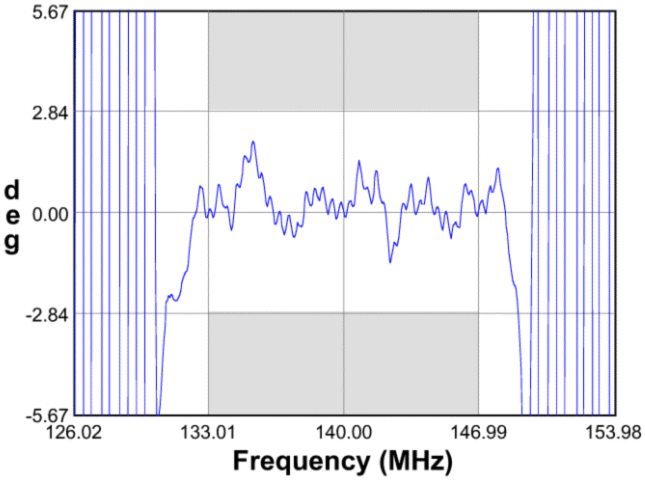
Passband Response



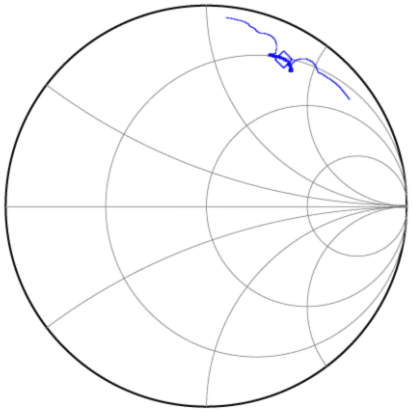
Wideband Response



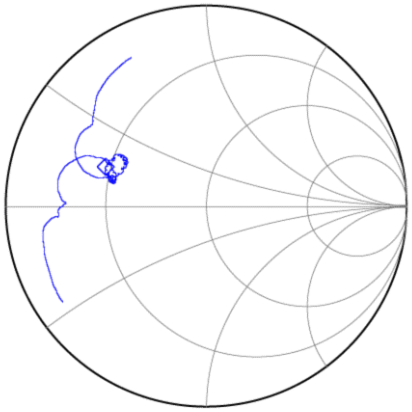
Phase Linearity



Input Smith Chart



Output Smith Chart

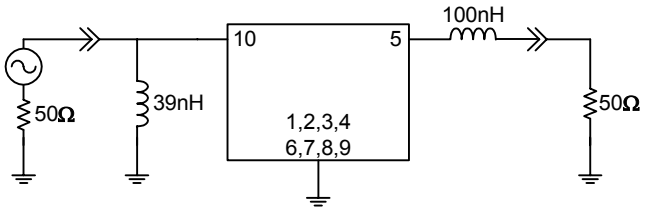


Part Number 856071
140 MHz SAW Filter

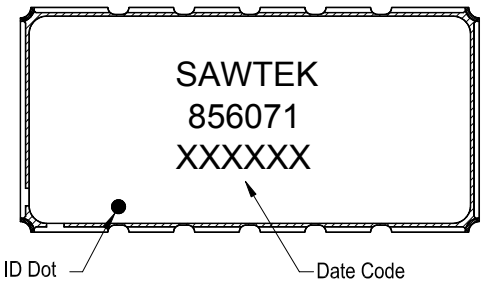
Matching Schematics

Actual matching values may vary due to PCB layout and parasitics

50Ω
Single-ended

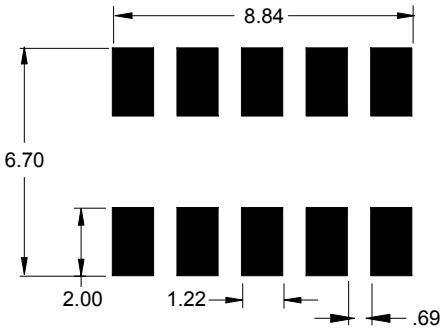


Marking



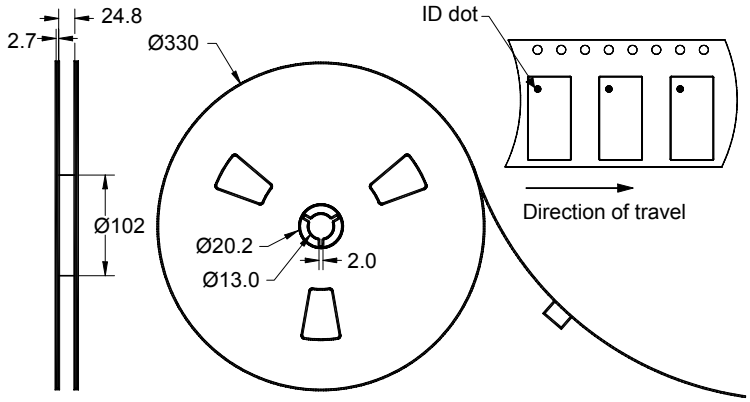
The date code consists of: day of the current year (Julian, 3 digits), last digit of the year (1 digit) and hour (2 digits)

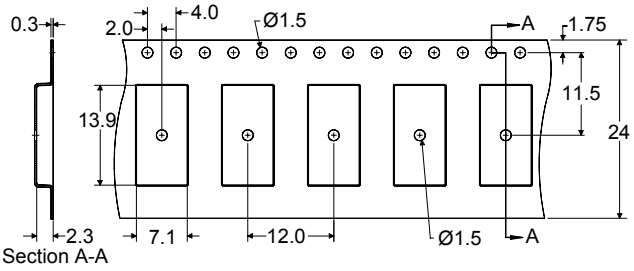
PCB Footprint



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

Data Sheet

Part Number 856071
140 MHz SAW Filter

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

Sawtek's liability is limited only to the Surface Acoustic Wave (SAW) component(s) described in this data sheet. Sawtek does not accept any liability for applications, processes, circuits or assemblies which are implemented using any Sawtek component described in this data sheet.

Contact Information

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