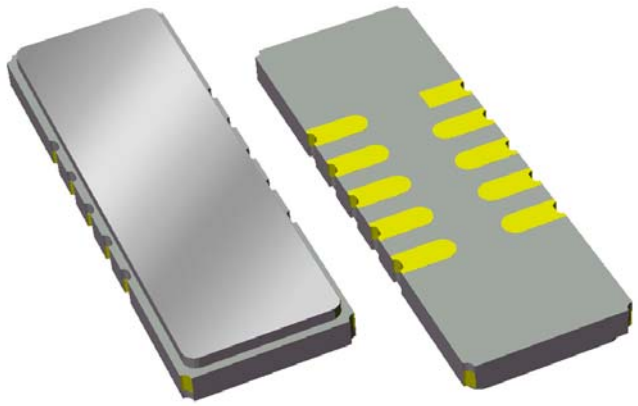
SAWTEK a TriQuint company

Preliminary Data Sheet

Part Number 856062
140 MHz SAW Filter

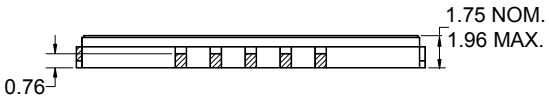
Features

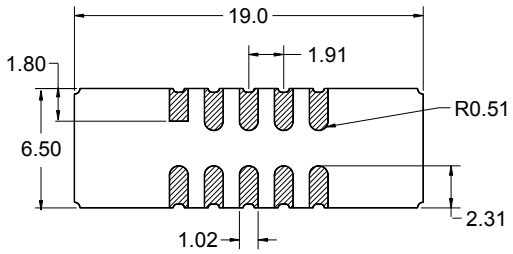
- For IF applications
- Typical 3 dB bandwidth of 0.75 MHz
- High attenuation
- Single-ended operation
- Ceramic Surface Mount Package (SMP)
- Replaces Sawtek P/N 851902 (BW 3dB = 0.75MHz)
- Hermetic
- RoHS compliant (2002/95/EC), Pb-free



Package

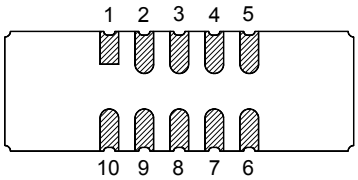
Surface Mount 19.00 x 6.50 x 1.75 mm





Pin Configuration

Bottom View



Pin No.	Description
5	RF output
10	RF 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 +0.15mm/-0.10mm

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

SAWTEK a TriQuint company

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Electrical Specifications [1]

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

Parameter [3]	Minimum	Typical	Maximum	Unit
Center Frequency	-	140	-	MHz
Minimum Insertion Loss	-	20.8	23	dB
Lower 1 dB Bandedge [4]	-	139.722	139.805	MHz
Upper 1 dB Bandedge	140.195	140.264	-	MHz
Lower 3 dB Bandedge [4]	-	139.606	139.676	MHz
Upper 3 dB Bandedge	140.324	140.376	-	MHz
Lower 40 dB Bandedge [4]	139.035	139.123	-	MHz
Upper 40 dB Bandedge	-	140.912	140.965	MHz
Amplitude Variation 139.805 - 140.195 MHz	-	0.44	1	dB p-p
Phase Linearity 139.805 - 140.195 MHz	-	0.95	4	deg p-p
Group Delay Variation 139.805 - 140.195 MHz	-	62	240	ns p-p
Relative Attenuation [4]				
15 - 138.5 MHz	50	59.6	-	dB
141.5 - 155 MHz	43	54.5	-	dB
155 - 219 MHz	48	59.3	-	dB
219 - 239 MHz	-	13.8	-	dB
239 - 248 MHz	48	62.6	-	dB
248 - 268 MHz	-	14.0	-	dB
268 - 350 MHz	50	66.0		
Terminating Source Impedance [5]	-	50	-	Ω
Terminating Load Impedance [5]	-	50	-	Ω

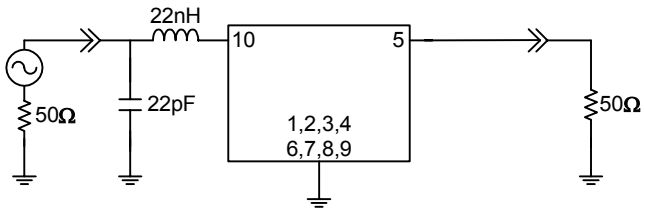
Notes:

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 temperature 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:

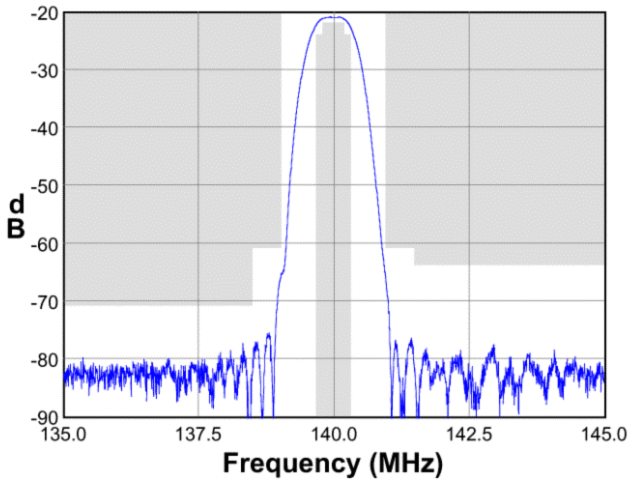
Actual matching values may vary due to PCB layout and parasitics

50 Ω
Single-ended

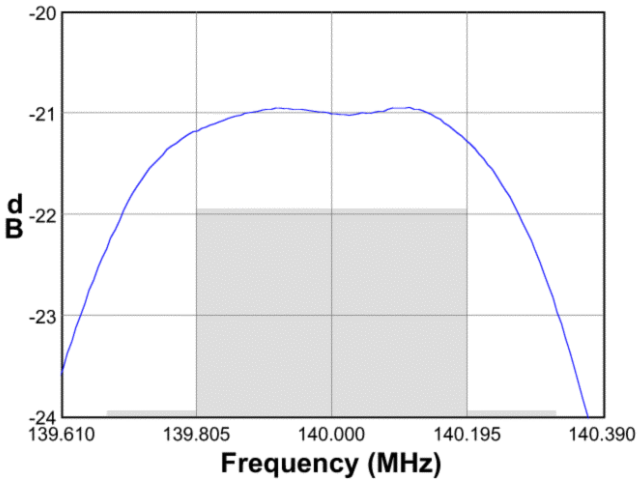


Typical Performance (at +25°C)

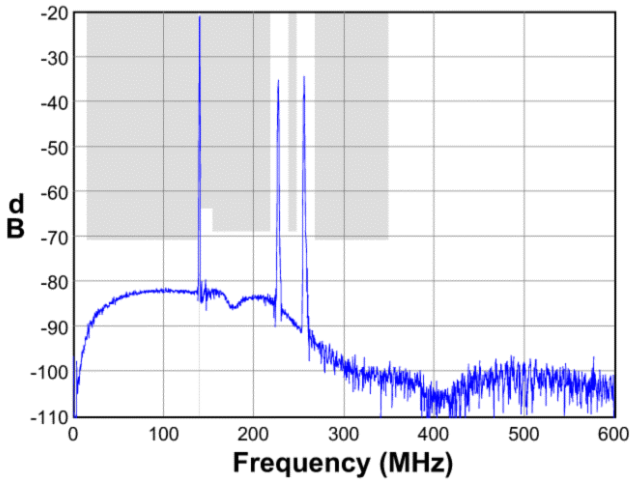
Frequency Response



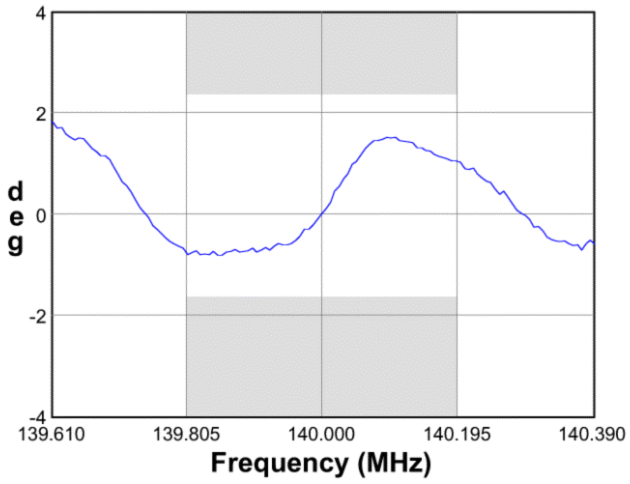
Passband Response



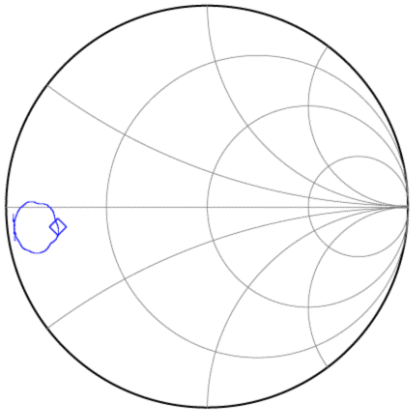
Wideband Response



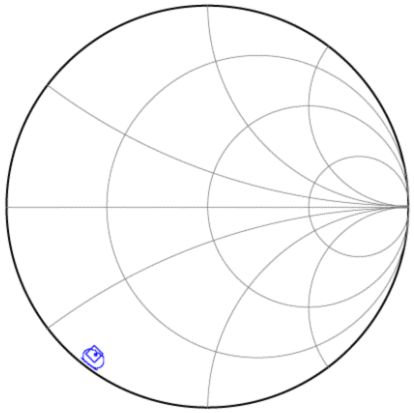
Phase Linearity



Input Smith Chart



Output Smith Chart



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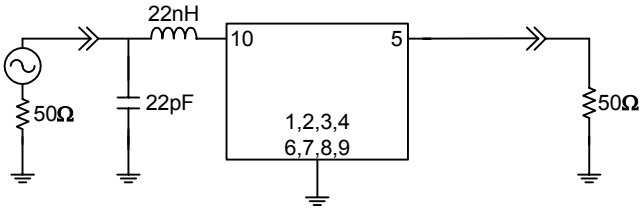
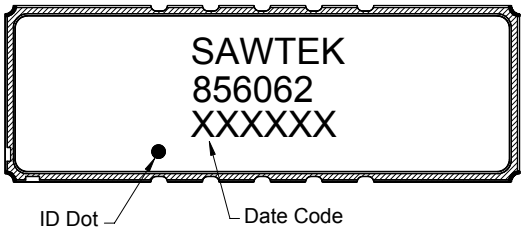
Matching Schematics

Actual matching values may vary due to PCB layout and parasitics

50Ω
Single-ended

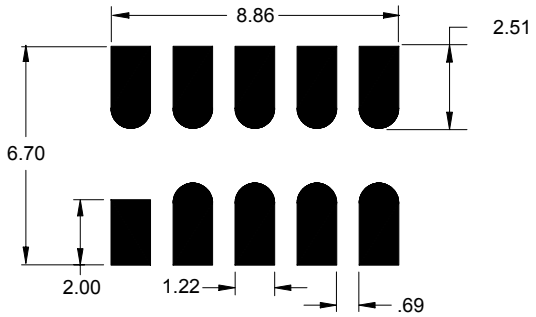


Marking



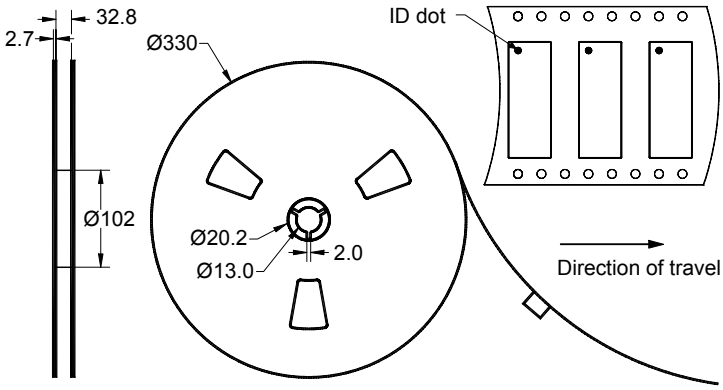
The date code consists of: day of the current year (Julian, 3 digits), last digit of the year (1 digit) and hour (2 digits)

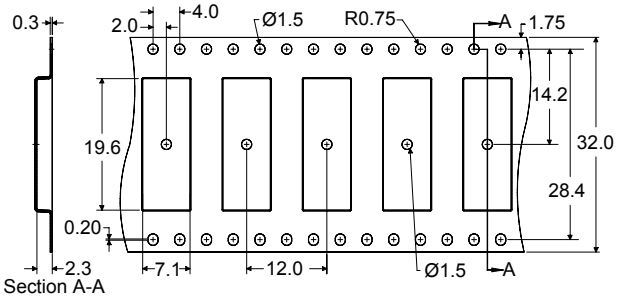
PCB Footprint



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

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Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Unit
Operating Temperature Range	T	0	+70	°C
Storage Temperature Range	T_{stg}	-40	+85	°C

Important Notes

Warnings

- Electrostatic Sensitive Device (ESD)
- Avoid ultrasonic exposure

RoHS Compliance

- This product complies with EU directive 2002/95/EC (RoHS)

Solderability

- Compatible with JEDEC J-STD-020C **Pb**-free process, **260°C** peak reflow temperature (see soldering profile)

Links to Additional Technical Information

PCB Layout Tips | Qualification Flowchart | Soldering Profile

S-Parameters | RoHS Information | 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