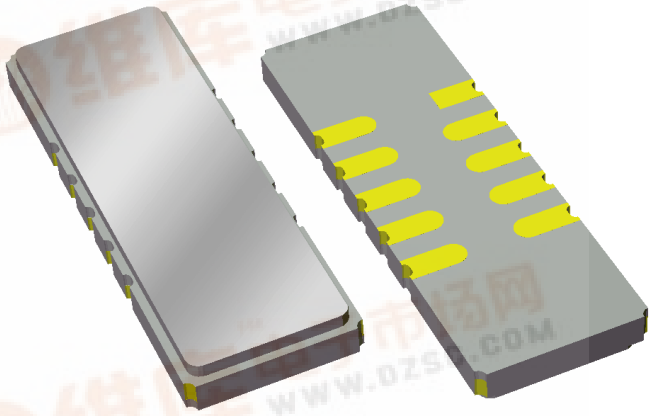
SAWTEK a TriQuint company

Part Number 856064
140 MHz SAW Filter

Preliminary Data Sheet

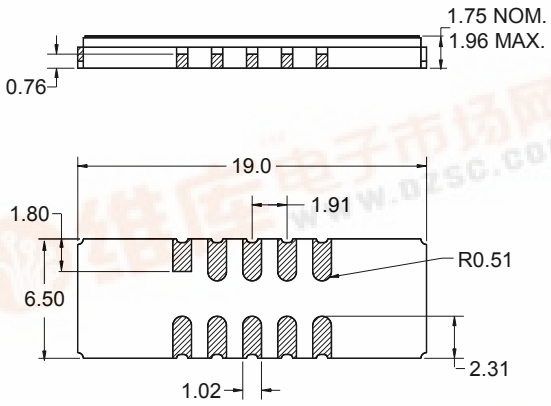
Features

- For IF applications
- Typical 3 dB bandwidth of 2 MHz
- High attenuation
- Single-ended operation
- Ceramic Surface Mount Package (SMP)
- Replaces Sawtek P/N 851905 (BW 3dB = 2.0MHz)



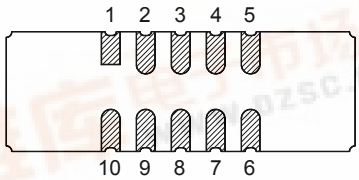
Package

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

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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	-	21.5	22.186	dB
Lower 1 dB Bandedge [4]	-	139.06	139.155	MHz
Upper 1 dB Bandedge	140.845	140.94	-	MHz
Lower 3 dB Bandedge [4]	-	138.91	138.978	MHz
Upper 3 dB Bandedge	141.022	141.09	-	MHz
Lower 40 dB Bandedge [4]	138.272	138.31	-	MHz
Upper 40 dB Bandedge	-	141.67	141.726	MHz
Amplitude Variation 139.15 - 140.85 MHz	-	0.5	1.0	dB p-p
Phase Linearity 139.15 - 140.85 MHz	-	1.8	3.5	deg p-p
Group Delay Variation 139.15 - 140.85 MHz	-	85	180	ns p-p
Relative Attenuation [4]				
15 - 136 MHz	60	64	-	dB
144 - 220 MHz	45	56	-	dB
220 - 230 MHz	38	46	-	dB
230 - 250 MHz	45	65	-	dB
250 - 260 MHz	26	31	-	dB
260 - 350 MHz	45	65	-	dB
Terminating Source Impedance: [5]	-	50	-	Ω
Terminating Load Impedance: [5]	-	50	-	Ω
Substrate Material	-	Quartz	-	-

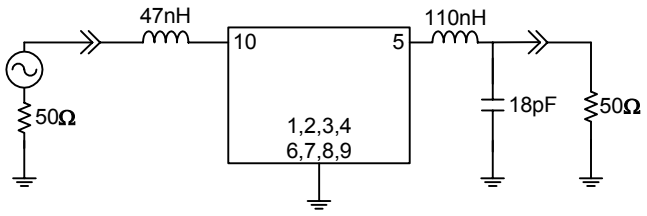
Notes:

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



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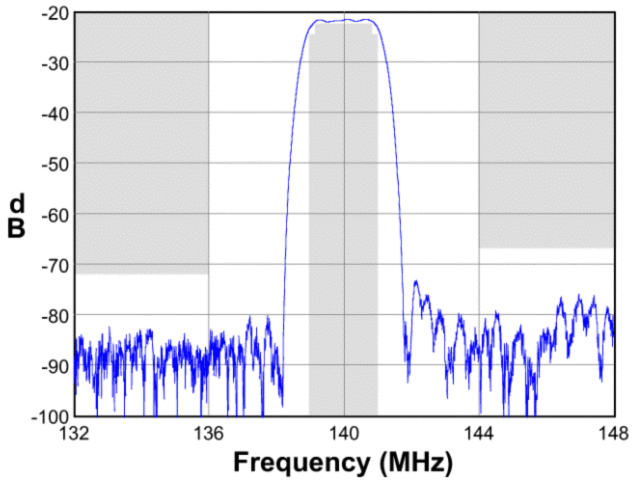
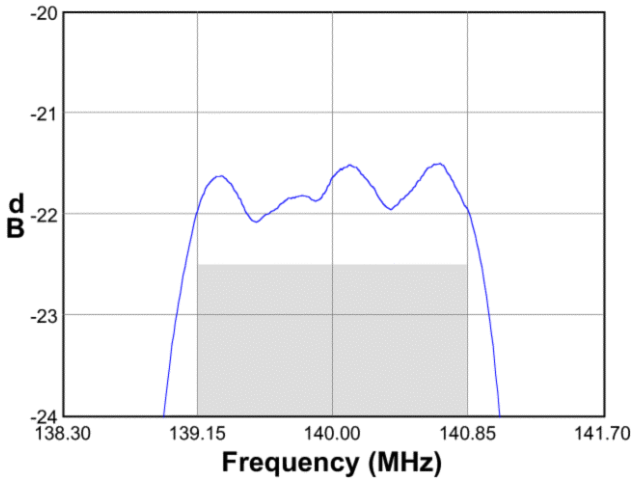
Typical Performance (at +25°C)

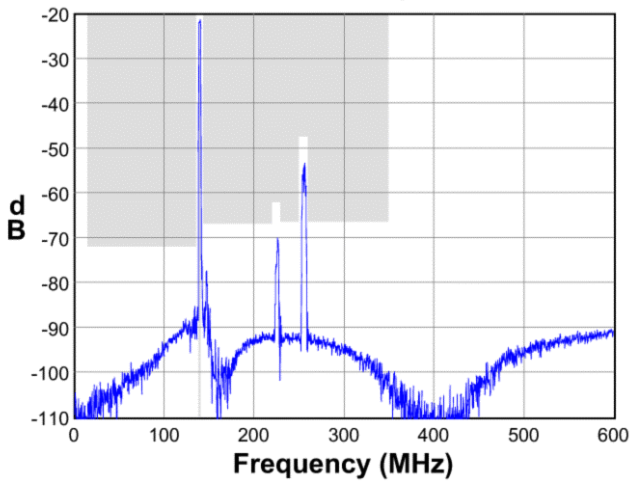
Frequency Response



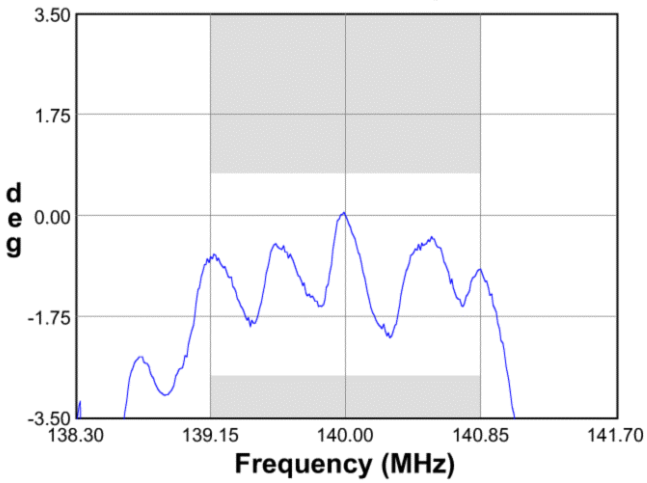
Passband Response



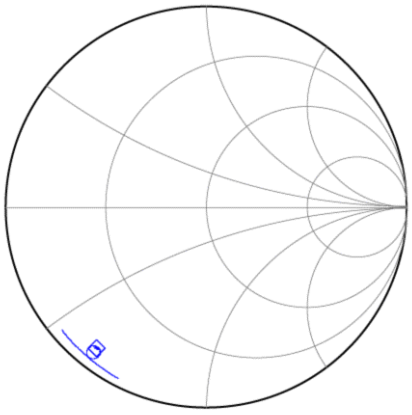
Wideband Response



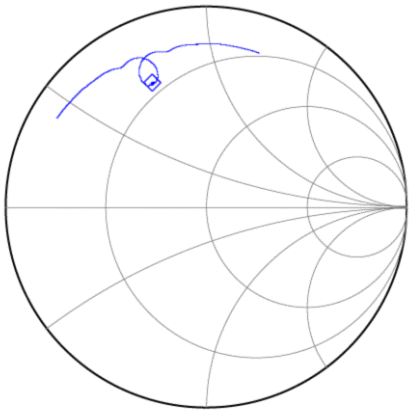
Phase Linearity



Input Smith Chart



Output Smith Chart



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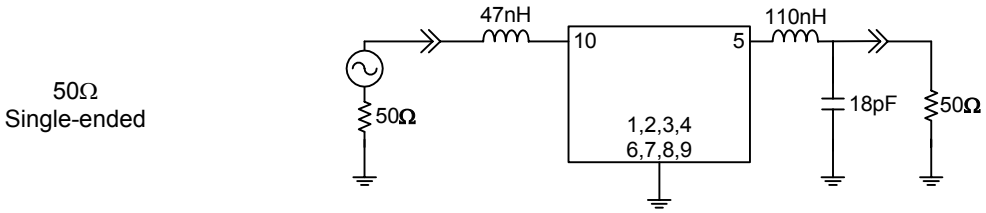
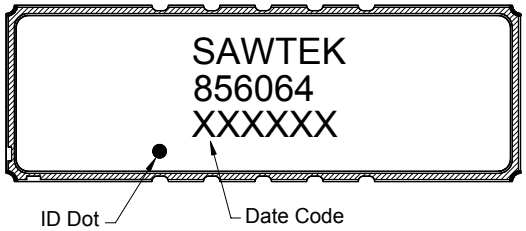
Matching Schematics

Actual matching values may vary due to PCB layout and parasitics

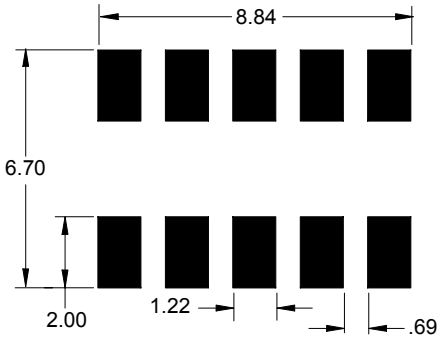


Marking



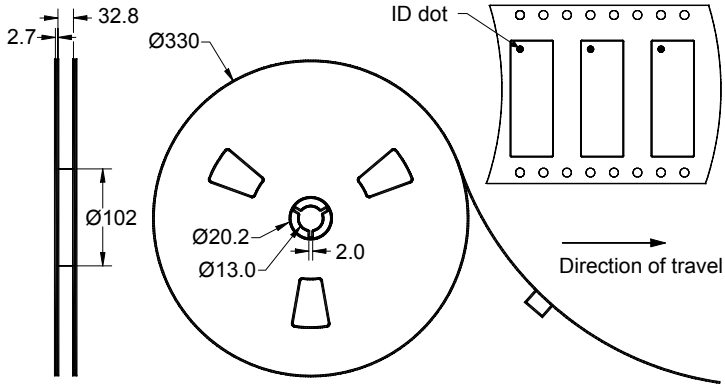
The date code consists of: day of the current year (Julian, 3 digits), last digit of the year (1 digit) and hour (2 digits)

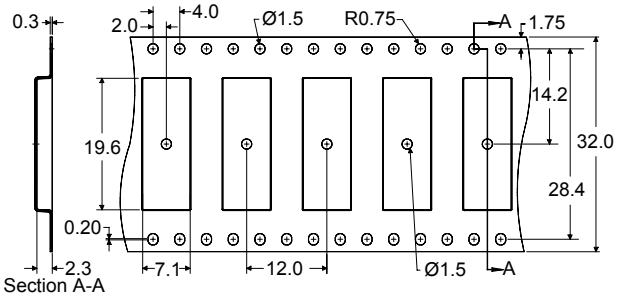
PCB Footprint



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

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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