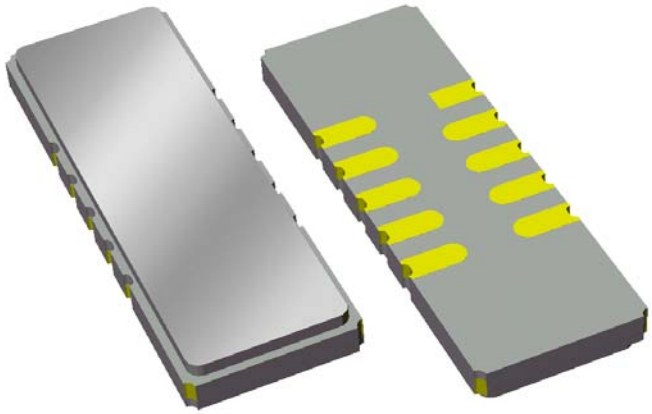
SAWTEK a TriQuint company

Preliminary Data Sheet

Part Number 856151
240 MHz SAW Filter

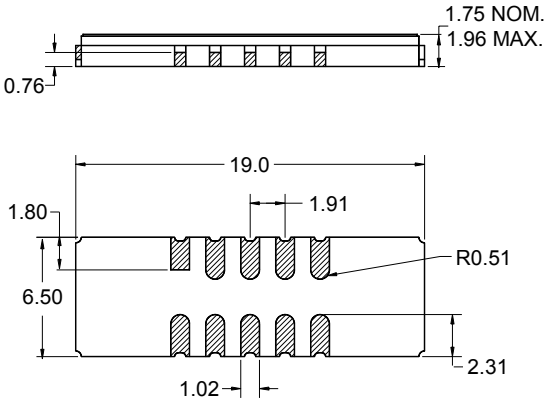
Features

- For CDMA applications
- Usable 1dB bandwidth of 1.1 MHz
- Low loss
- High attenuation
- Single-ended operation
- Ceramic Surface Mount Package (SMP)



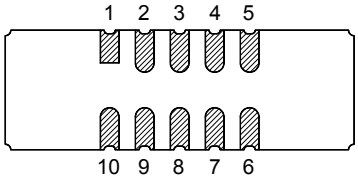
Package

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] -10 to +85 °C

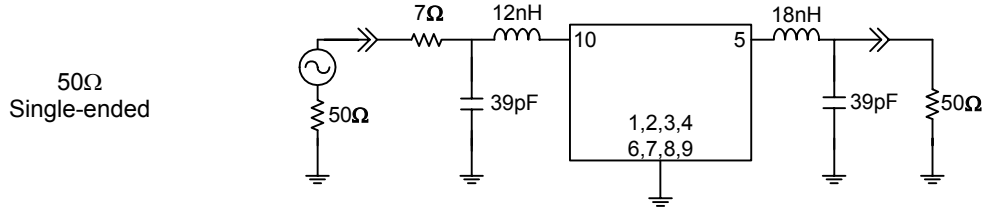
Parameter [3]	Minimum	Typical	Maximum	Unit
Center Frequency, f_0	-	240	-	MHz
Insertion Loss				
239.45 - 240.55 MHz	-	13	16	dB
Lower 1 dB Bandedge [4]	-	239.39	239.45	MHz
Upper 1 dB Bandedge	240.55	240.68	-	MHz
Lower 10 dB Bandedge [4]	239.1	239.19	-	MHz
Upper 10 dB Bandedge	-	240.83	240.9	MHz
Attenuation				
237.5 - 238.3 MHz	35	50	-	dB
238.3 - 238.75 MHz	25	39	-	dB
241.25 - 241.7 MHz	25	38	-	dB
241.7 - 242.5 MHz	35	50	-	dB
Amplitude Variation				
239.45 - 240.55 MHz	-	0.6	1.0	dB p-p
Phase Variation				
239.45 - 240.55 MHz	-	2	6	degree
Absolute Group Delay	-	2.5	3.5	µsec
Group Delay Variation				
239.45 - 240.55 MHz	-	90	200	nsec
Rejection				
170 - 237.5 MHz	40	46	-	dB
242.5 - 310 MHz	40	45	-	dB
Input/Output Return Loss				
239.45 - 240.55 MHz	10	14	-	dB
Source Impedance [5]	-	50	-	Ω
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 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

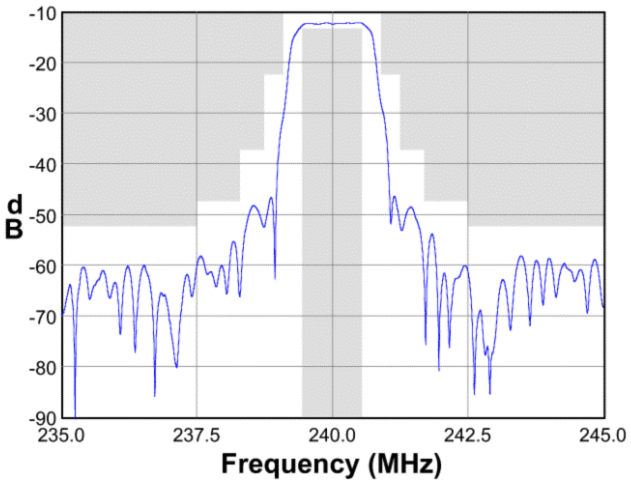
Manual Test Circuit:

Actual matching values may vary due to PCB layout and parasitics

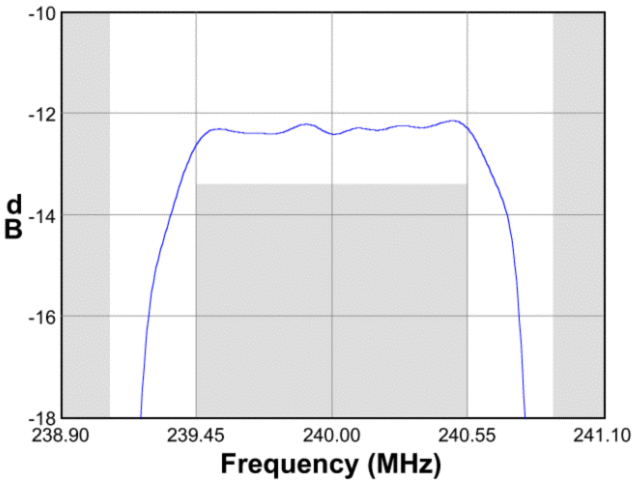


Typical Performance (at +25°C)

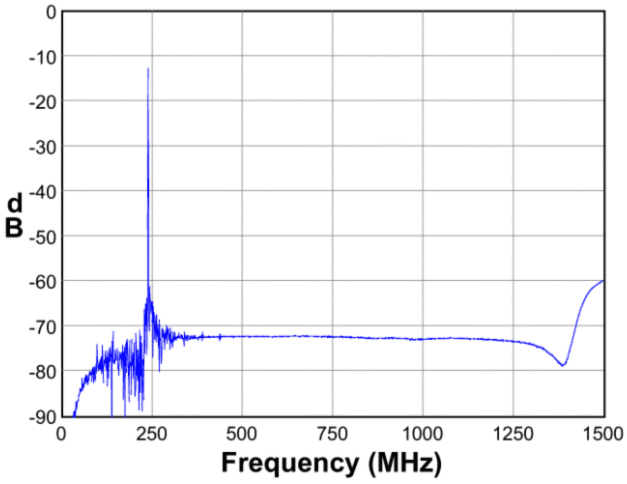
Frequency Response



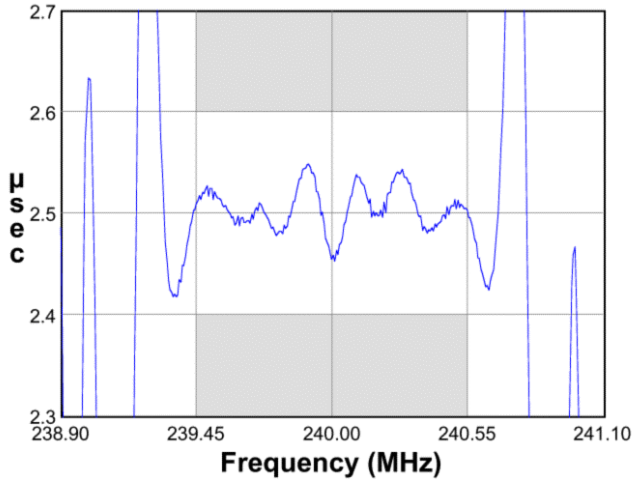
Passband Response



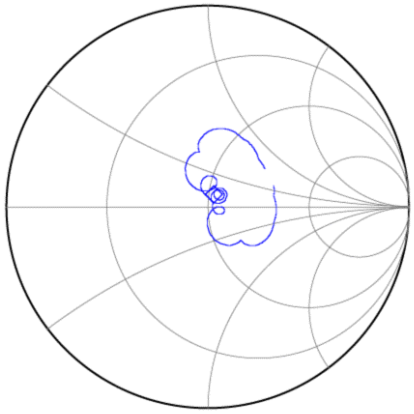
Wideband Response



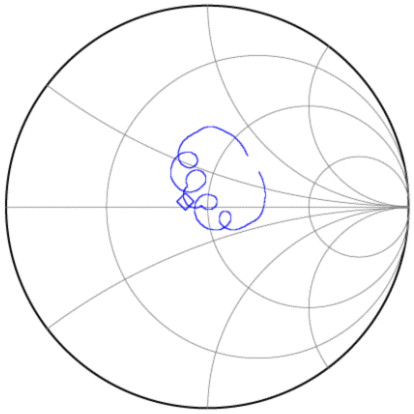
Group Delay Variation



Input Smith Chart

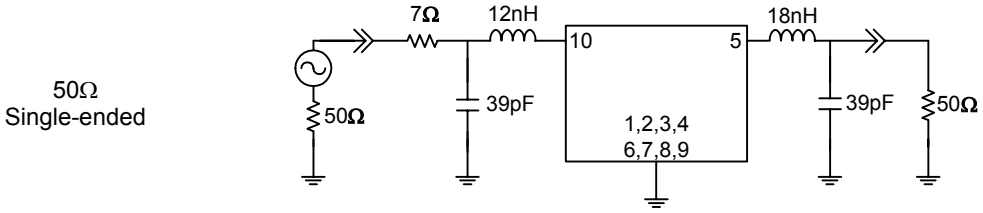


Output Smith Chart

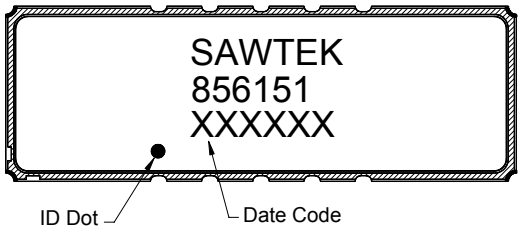


Matching Schematics

Actual matching values may vary due to PCB layout and parasitics

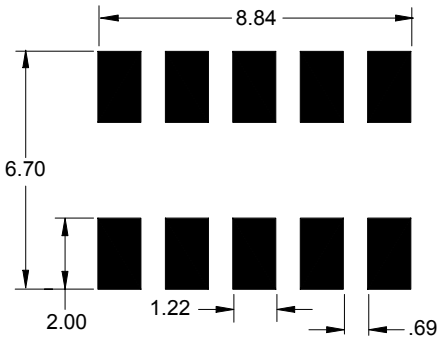


Marking



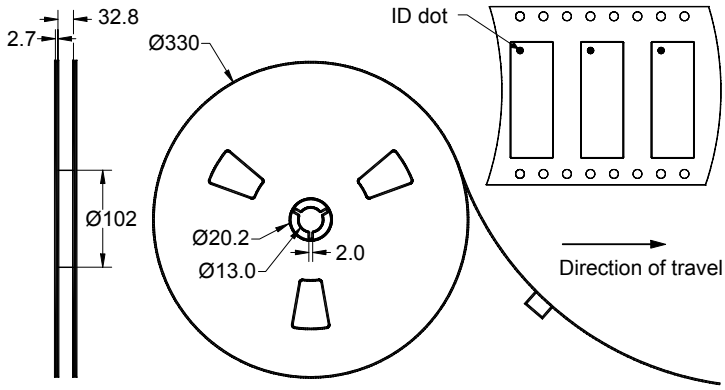
The date code consists of: day of the current year (Julian, 3 digits), last digit of the year (1 digit) and hour (2 digits)

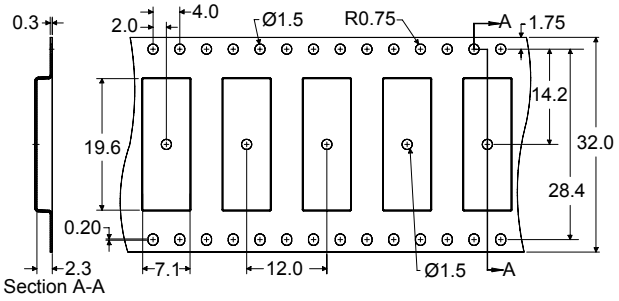
PCB Footprint



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	-10	+85	°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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