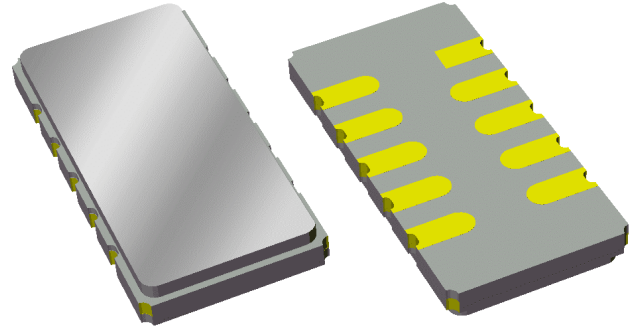


**Preliminary Data Sheet**

**Features**

- For broadband applications
- Typical 3 dB bandwidth of 7.1 MHz
- High attenuation
- Single-ended operation
- Ceramic Surface Mount Package (SMP)
- Small size
- Replaces Sawtek P/N 851915 (BW 3dB=7.0 MHz)

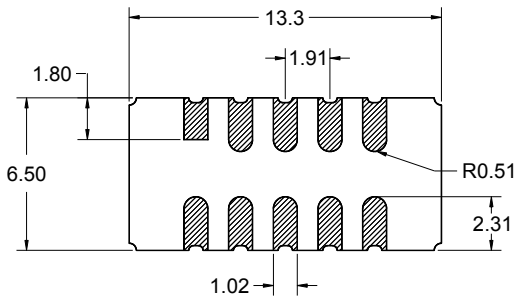
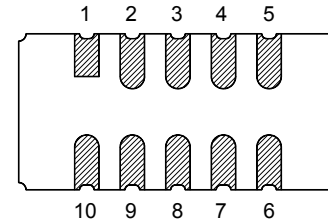
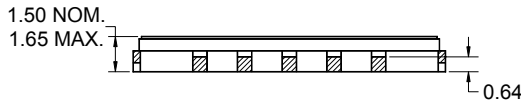


**Package**

Surface Mount 13.30 x 6.50 x 1.50 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  $\pm 0.15$ mm except overall  
length and width  $\pm 0.10$ mm

Body:  $Al_2O_3$  ceramic  
Lid: Kovar, Ni plated  
Terminations: Au plating 0.5 - 1.0 $\mu$ m,  
over a 2 - 6 $\mu$ m Ni plating

# Preliminary Data Sheet

## Electrical Specifications <sup>(1)</sup>

Operating Temperature Range: <sup>(2)</sup> 0 to +70 °C

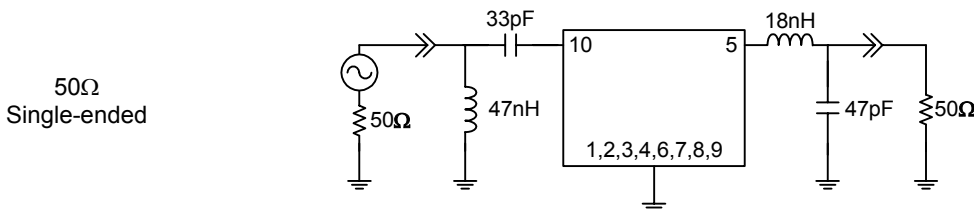
Parameter <sup>(3)</sup>	Minimum	Typical	Maximum	Unit
Center Frequency	-	140	-	MHz
Minimum Insertion Loss	-	24.5	25.75	dB
Lower 1 dB Bandedge <sup>(4)</sup>	-	136.7	136.925	MHz
Upper 1 dB Bandedge	143.075	143.3	-	MHz
Lower 3 dB Bandedge <sup>(4)</sup>	-	136.45	136.58	MHz
Upper 3 dB Bandedge	143.42	143.55	-	MHz
Lower 40 dB Bandedge <sup>(4)</sup>	135.425	135.6	-	MHz
Upper 40 dB Bandedge	-	144.4	144.575	MHz
Amplitude Variation 136.925 - 143.075 MHz	-	0.6	0.9	dB
Phase Linearity 136.925 - 143.075 MHz	-	2.25	3.5	deg
Group Delay Variation 136.925 - 143.075 MHz	-	40	65	nsec
Absolute Delay	-	1.6	-	μsec
Relative Attenuation <sup>(4)</sup>				
15 - 132 MHz	50	60	-	dB
148 - 250 MHz	50	60	-	dB
250 - 280 MHz	42	45	-	dB
280 - 350 MHz	50	60	-	dB
Source Impedance <sup>(5)</sup>	-	50	-	Ω
Load Impedance <sup>(5)</sup>	-	50	-	Ω
Substrate Material	-	LiTaO <sub>3</sub>	-	-
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

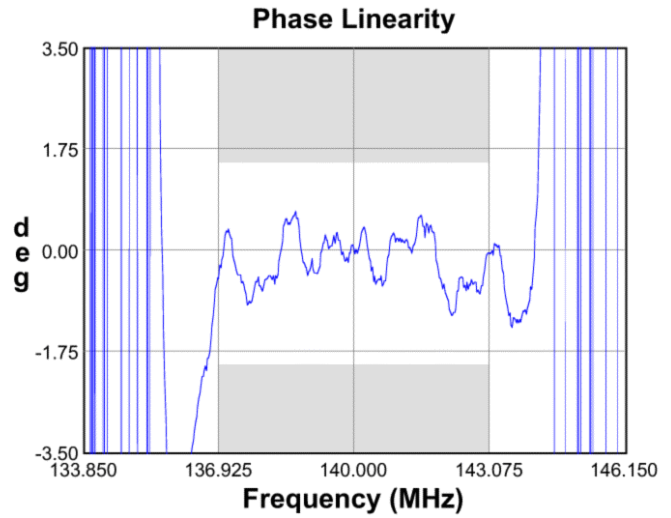
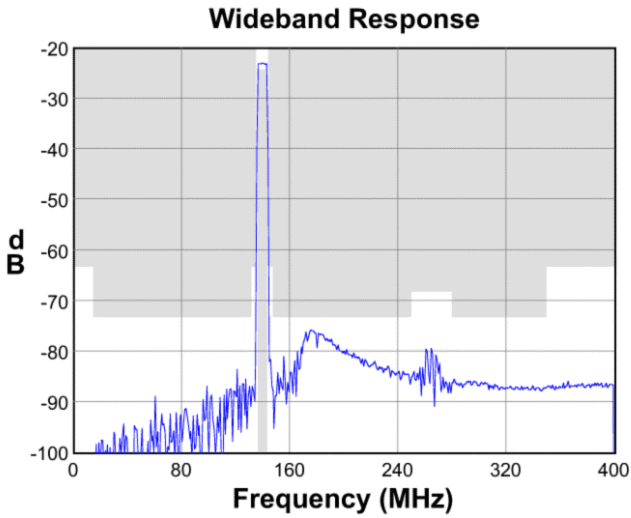
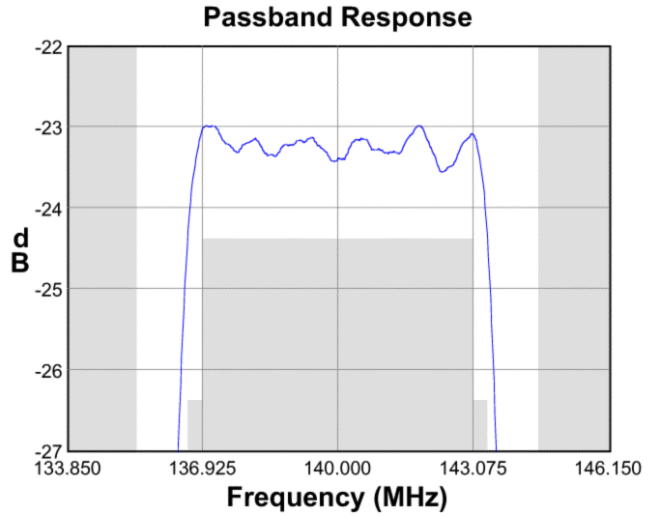
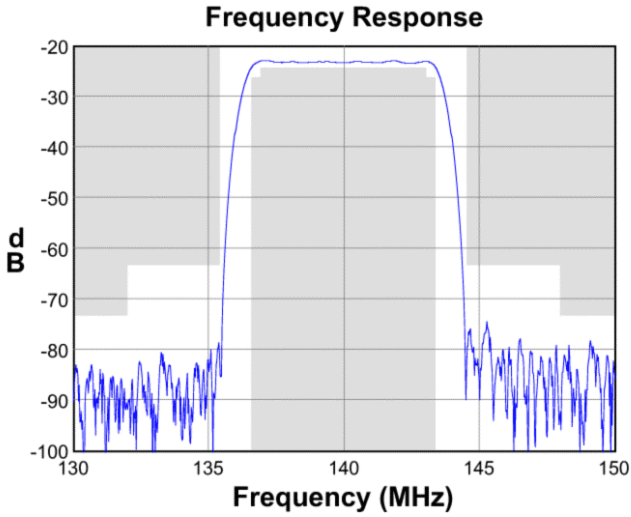
### Test Circuit:

Actual matching values may vary due to PCB layout and parasitics

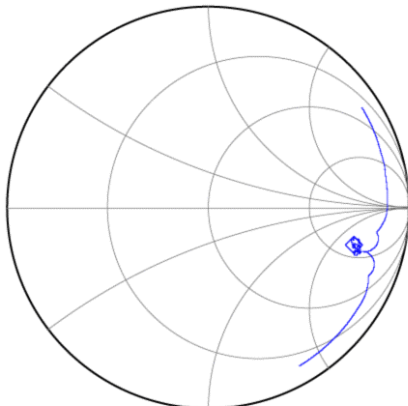


**Preliminary Data Sheet**

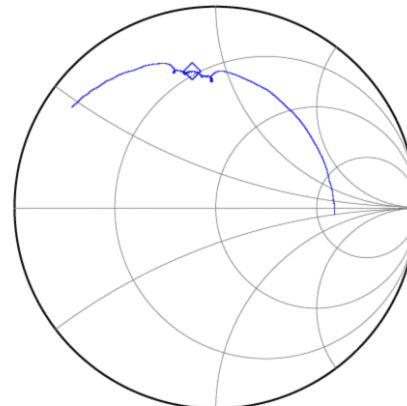
**Typical Performance (at +25°C)**



**Input Smith Chart**



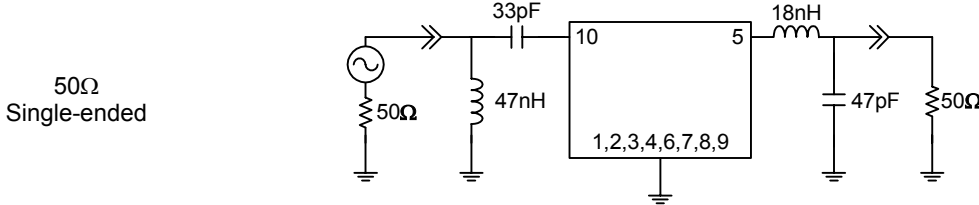
**Output Smith Chart**



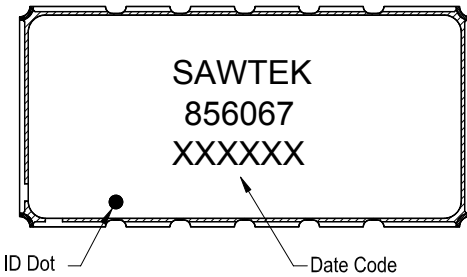
**Preliminary Data Sheet**

**Matching Schematics**

Actual matching values may vary due to PCB layout and parasitics

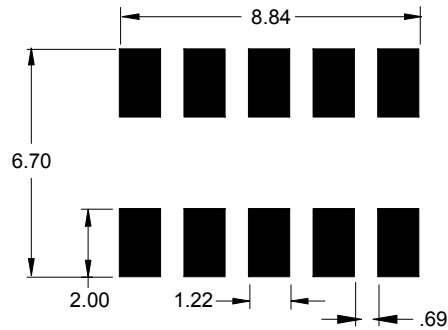


**Marking**



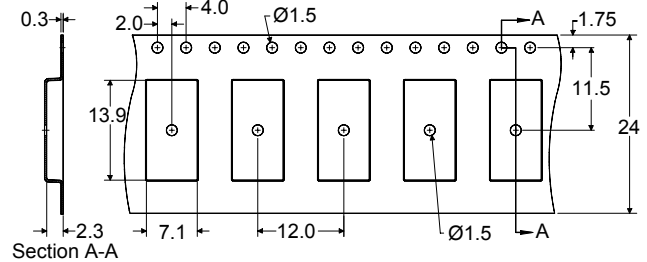
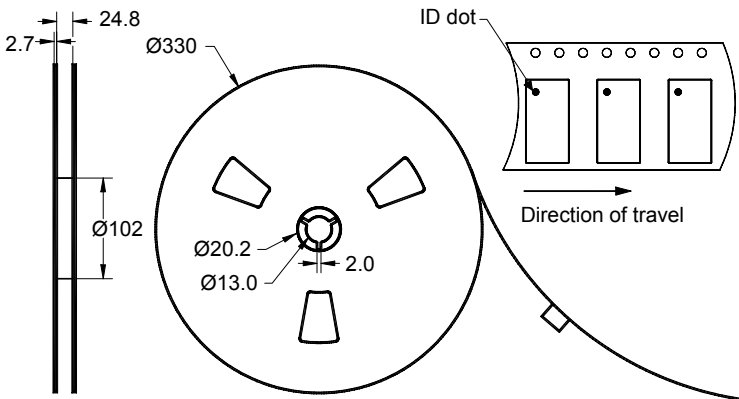
The date code consists of: day of the current year (Julian, 3 digits), last digit of the year (1 digit) and hour (2 digits)

**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

# Preliminary Data Sheet

## Maximum Ratings

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating Temperature Range	T	0	+25	+70	°C
Storage Temperature Range	T <sub>stg</sub>	-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.

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[representatives or distributors](#)