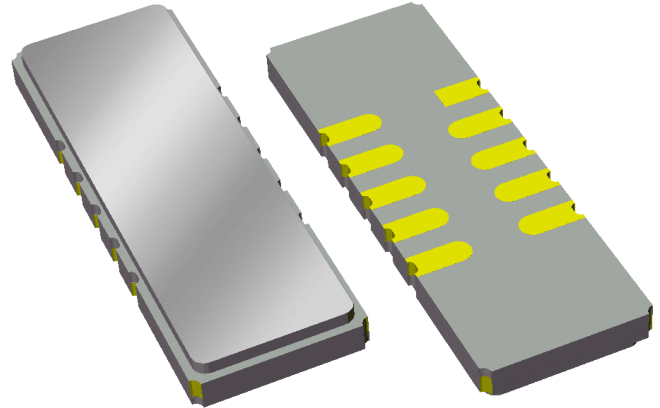


# Preliminary Data Sheet

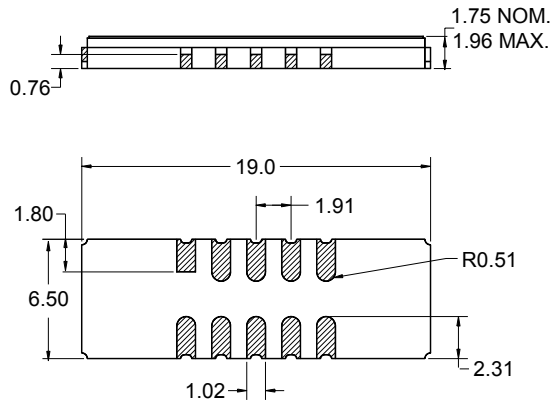
## Features

- For broadband applications
- Typical 3 dB bandwidth of 2.7 MHz
- High attenuation
- Single-ended operation
- Ceramic Surface Mount Package (SMP)
- Small size
- Replaces Sawtek P/N 851547 (BW 3dB=2.5 MHz)



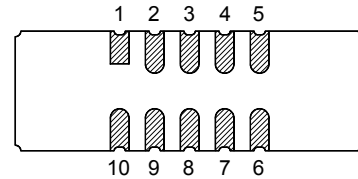
## Package

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  $\pm 0.15$ mm except overall  
 length and width  $+0.15$ mm/ $-0.10$ 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

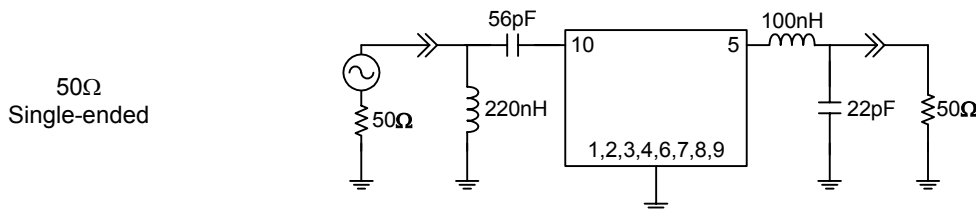
Parameter <sup>(3)</sup>	Minimum	Typical	Maximum	Unit
Center Frequency	-	70	-	MHz
Minimum Insertion Loss	-	20.25	21.25	dB
Lower 1 dB Bandedge <sup>(4)</sup>	-	68.8	68.9	MHz
Upper 1 dB Bandedge	71.1	71.2	-	MHz
Lower 3 dB Bandedge <sup>(4)</sup>	-	68.65	68.75	MHz
Upper 3 dB Bandedge	71.25	71.35	-	MHz
Lower 40 dB Bandedge <sup>(4)</sup>	67.9	67.99	-	MHz
Upper 40 dB Bandedge	-	71.95	72.2	MHz
Amplitude Variation 68.9 - 71.1 MHz	-	0.7	1	dB
Phase Linearity 68.9 - 71.1 MHz	-	2	3.75	deg
Group Delay Variation 68.9 - 71.1 MHz	-	90	125	nsec
Absolute Delay	-	2.3	-	µsec
Relative Attenuation <sup>(4)</sup>				
10 - 67.5 MHz	50	58	-	dB
72.5 - 125 MHz	50	55	-	dB
125 - 150 MHz	30	35	-	dB
150 - 200 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

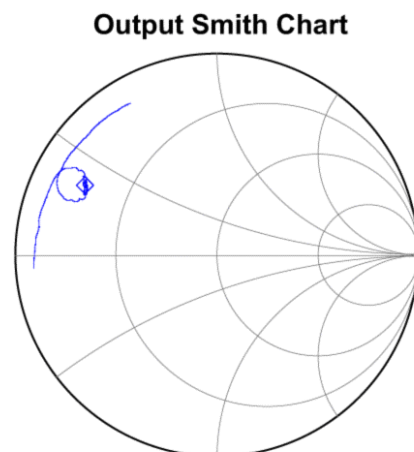
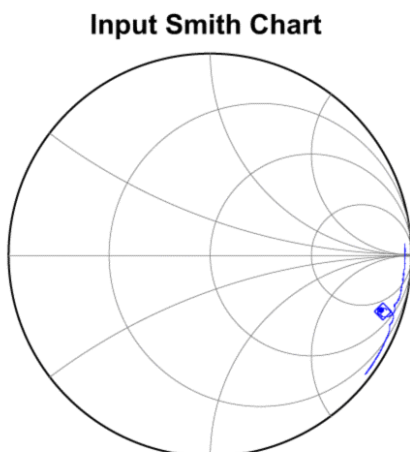
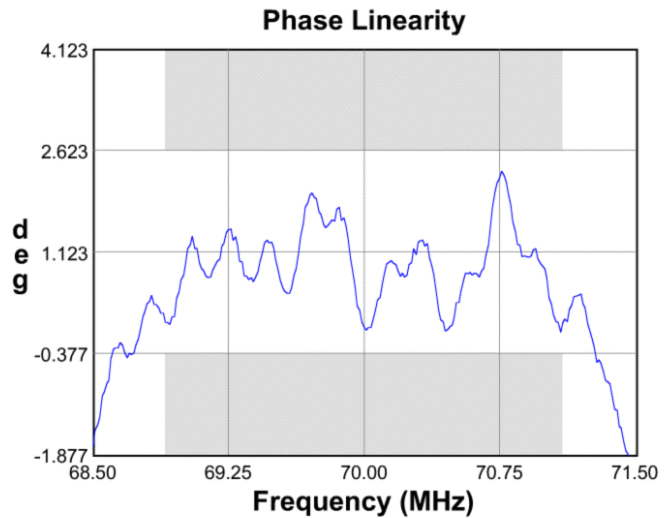
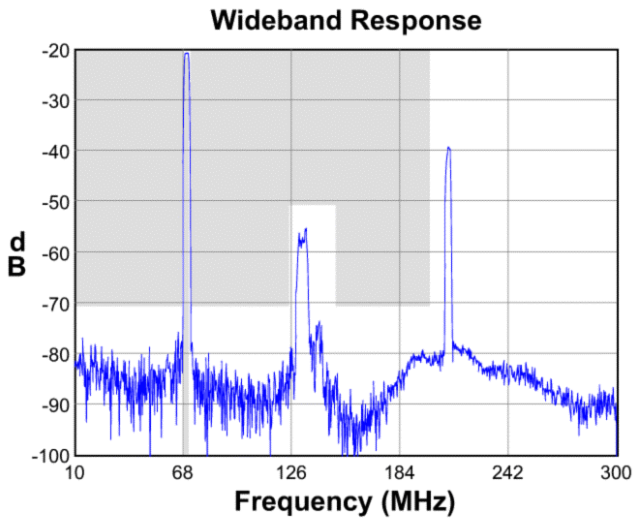
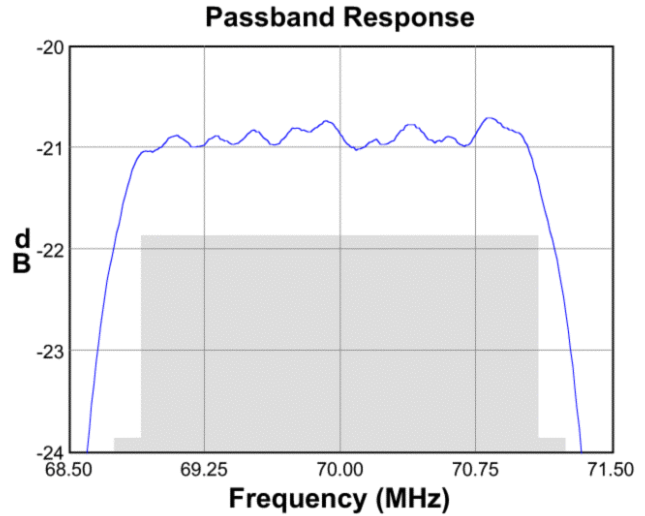
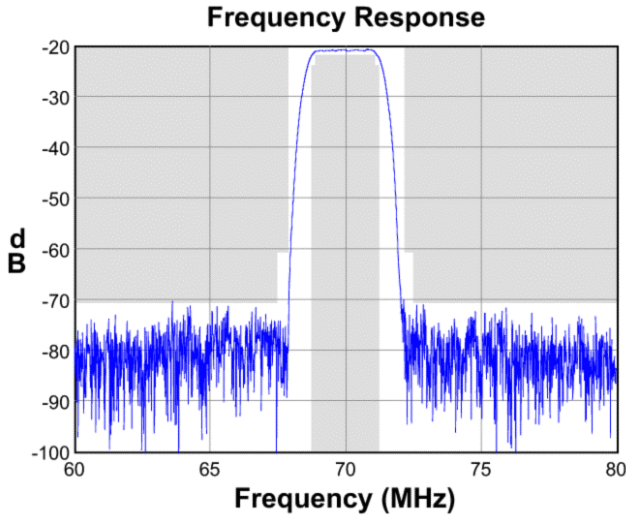
### Test Circuit:

Actual matching values may vary due to PCB layout and parasitics



**Preliminary Data Sheet**

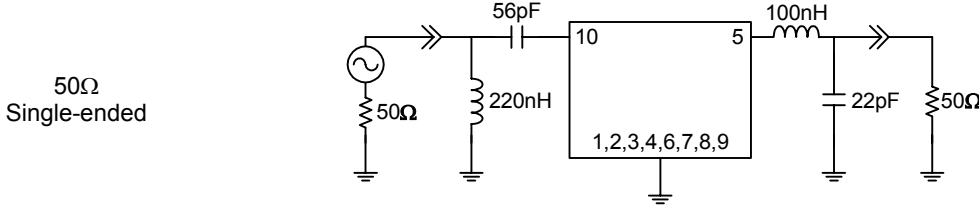
**Typical Performance (at +25°C)**



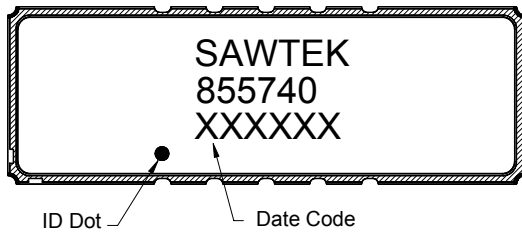
**Preliminary Data Sheet**

**Matching Schematics**

Actual matching values may vary due to PCB layout and parasitics

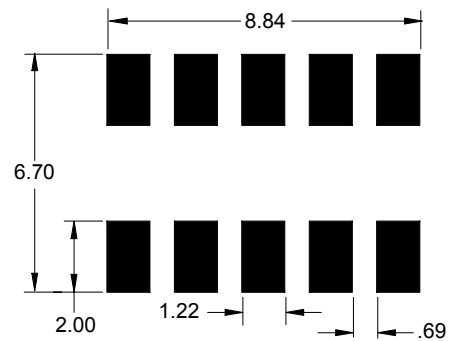


**Marking**



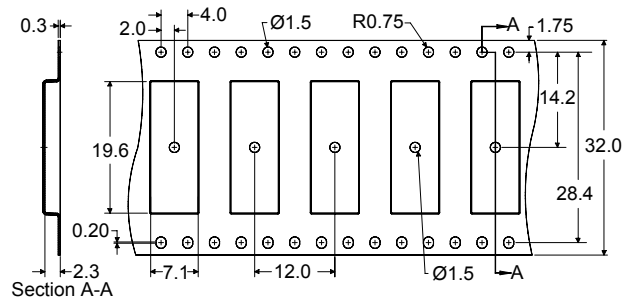
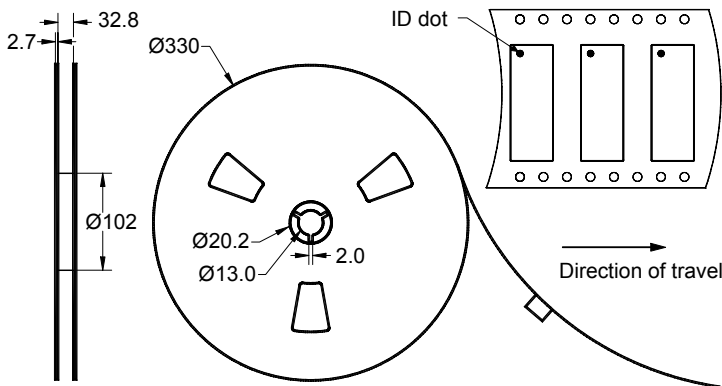
The date code consists of: day of the current year (Julian, 3 digits), last digit of the year (1 digit) and hour (2 digits)

**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](#)

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## Contact Information



PO Box 609501  
 Orlando, FL 32860-9501  
 USA

Phone: +1 (407) 886-8860  
 Fax: +1 (407) 886-7061  
 Email: [custservice@sawtek.com](mailto:custservice@sawtek.com)  
 Web: [www.sawtek.com](http://www.sawtek.com)

Or contact one of our worldwide network of [sales offices](#), [representatives or distributors](#)