
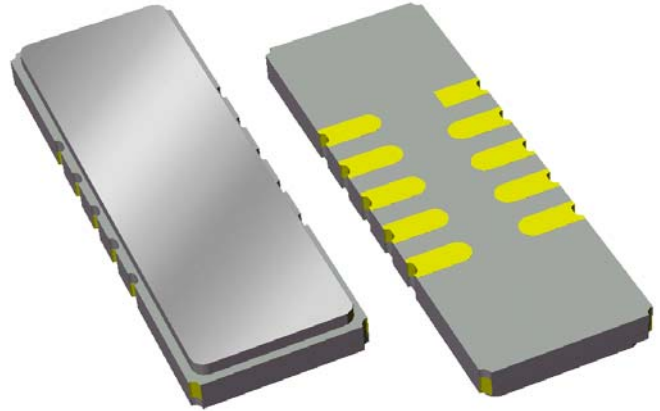


# Preliminary Data Sheet

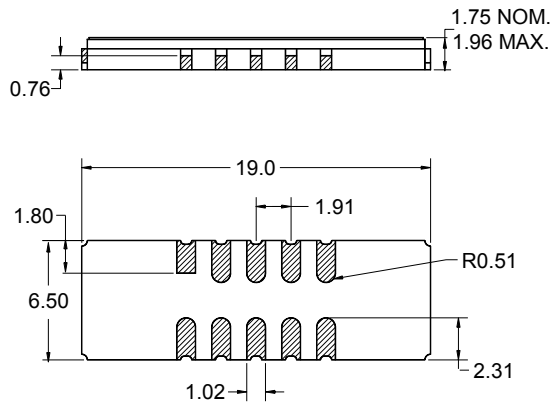
## Features

- For broadband applications
- Typical 3 dB bandwidth of 5.7 MHz
- High attenuation
- Single-ended operation
- Ceramic Surface Mount Package (SMP)
- Replaces Sawtek P/N 851553 (BW 3dB=5.5 MHz)
- Hermetic
- RoHS compliant (2002/95/EC), Pb-free 



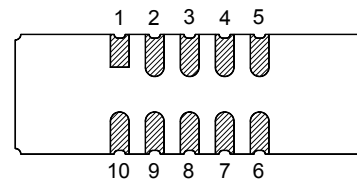
## Package

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

Body:  $\text{Al}_2\text{O}_3$  ceramic  
 Lid: Kovar, Ni plated  
 Terminations: Au plating 0.5 - 1.0 $\mu\text{m}$ ,  
 over a 2 - 6 $\mu\text{m}$  Ni plating

# Preliminary Data Sheet

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

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

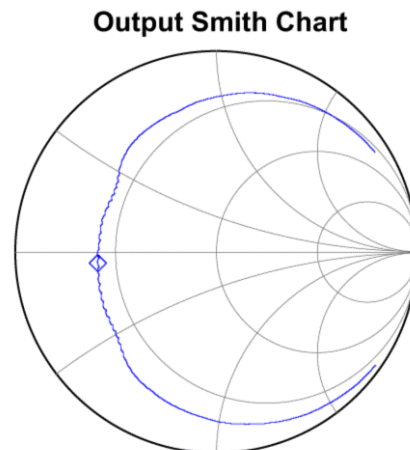
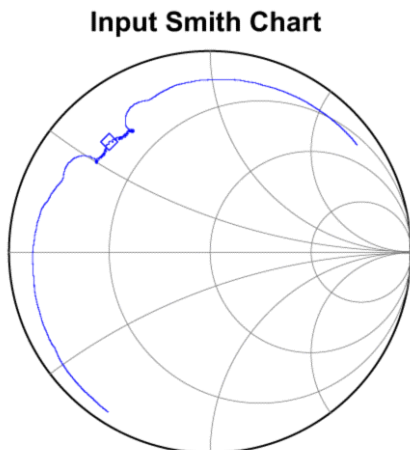
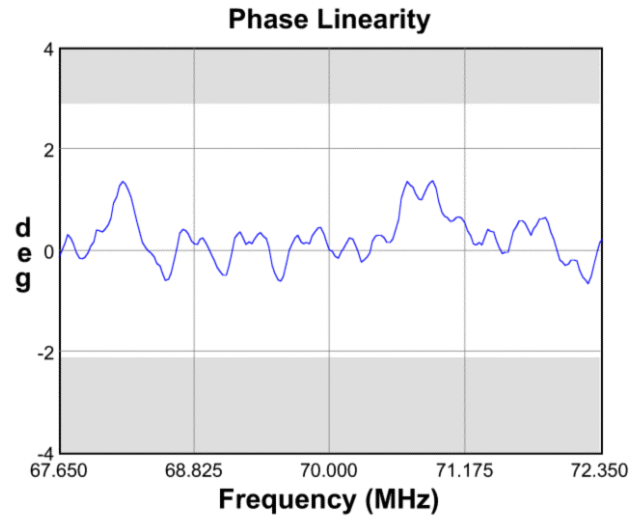
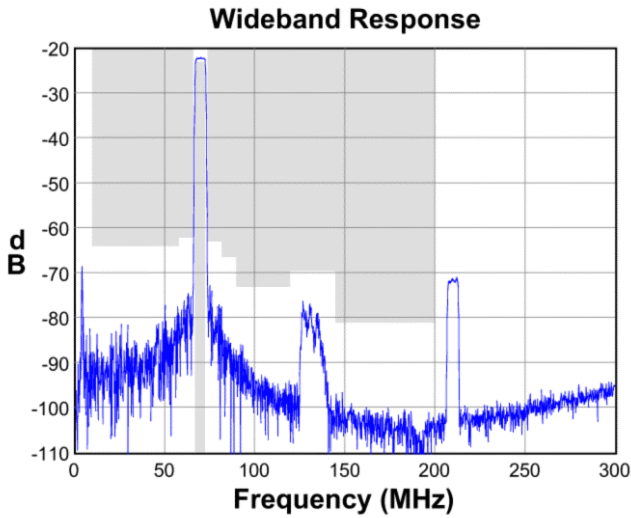
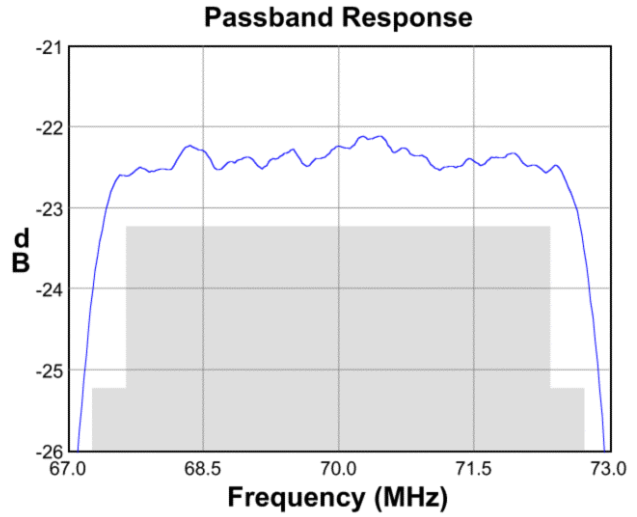
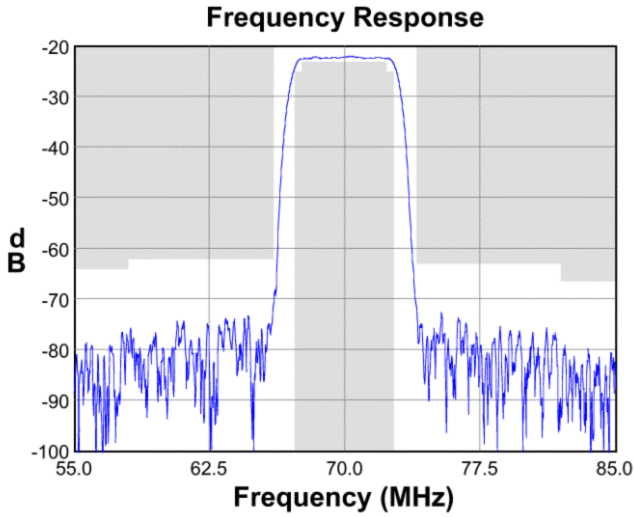
Parameter <sup>(3)</sup>	Minimum	Typical	Maximum	Unit
<b>Center Frequency</b>	-	70	-	MHz
<b>Minimum Insertion Loss</b>	-	22.2	24	dB
<b>Lower 1 dB Bandedge</b> <sup>(4)</sup>	-	67.45	67.65	MHz
<b>Upper 1 dB Bandedge</b>	72.35	72.66	-	MHz
<b>Lower 3 dB Bandedge</b> <sup>(4)</sup>	-	67.17	67.27	MHz
<b>Upper 3 dB Bandedge</b>	72.73	72.89	-	MHz
<b>Lower 40 dB Bandedge</b> <sup>(4)</sup>	66.08	66.28	-	MHz
<b>Upper 40 dB Bandedge</b>	-	73.76	73.92	MHz
<b>Amplitude Variation</b> 67.65 - 72.35 MHz	-	0.61	1.1	dB p-p
<b>Phase Linearity</b> 67.65 - 72.35 MHz	-	2.6	5.0	deg p-p
<b>Group Delay Variation</b> 67.65 - 72.35 MHz	-	55.7	110	nsec
<b>Absolute Delay</b>	-	2.065	-	μsec
<b>Relative Attenuation</b> <sup>(4)</sup>				
10 - 58 MHz	42.0	55	-	dB
58 - 66 MHz	37.0	47	-	dB
74 - 82 MHz	41.0	47	-	dB
82 - 90 MHz	44.5	54	-	dB
90 - 120 MHz	51.0	60	-	dB
120 - 145 MHz	47.5	54	-	dB
145 - 200 MHz	59.0	65	-	dB
<b>Source Impedance:</b> <sup>(5)</sup>	-	50	-	Ω
<b>Load Impedance:</b> <sup>(5)</sup>	-	50	-	Ω
<b>Substrate Material</b>	-	LiTaO <sub>3</sub>	-	-
<b>Temperature Coefficient of Frequency</b>	-	-23	-	ppm/°C

### Notes:

1. All specifications are based on the matching schematic shown on page 4
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

**Preliminary Data Sheet**

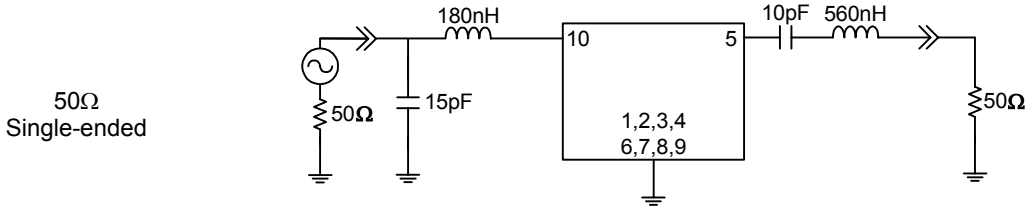
**Typical Performance (at +25°C)**



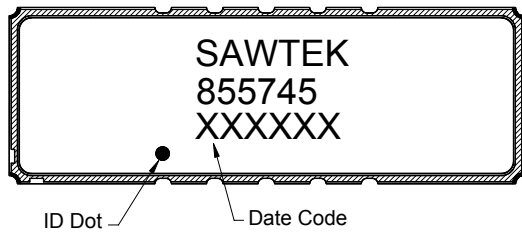
**Preliminary Data Sheet**

**Matching Schematic**

Actual matching values may vary due to PCB layout and parasitics

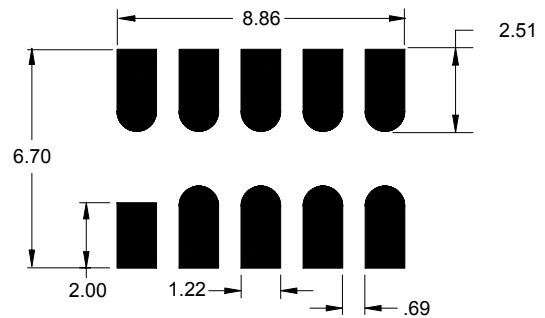


**Marking**



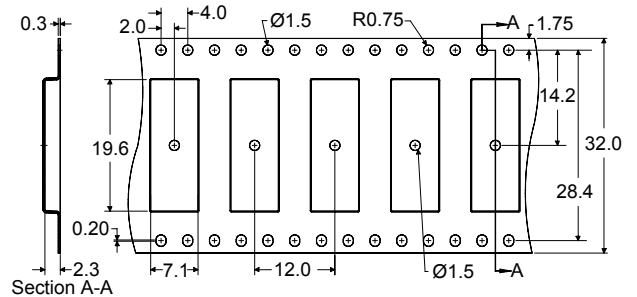
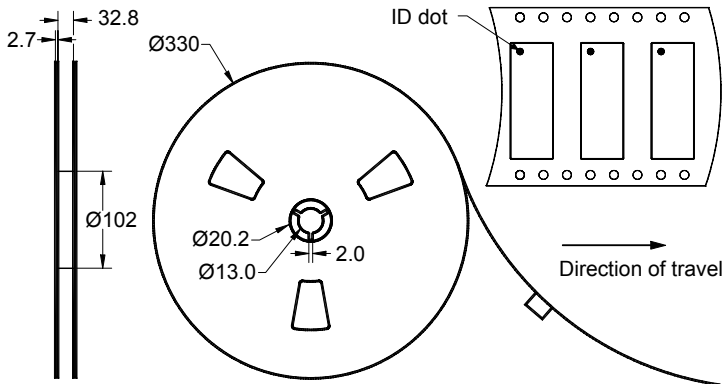
The date code consists of: day of the current year (Julian, 3 digits), last digit of the year (1 digit) and hour (2 digits)

**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

## 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](#)

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