
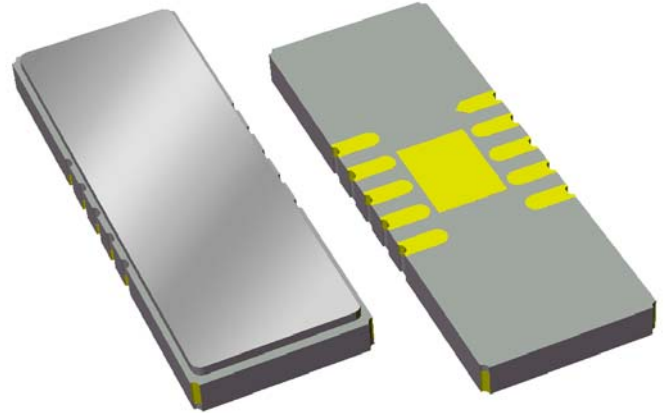


# Preliminary Data Sheet

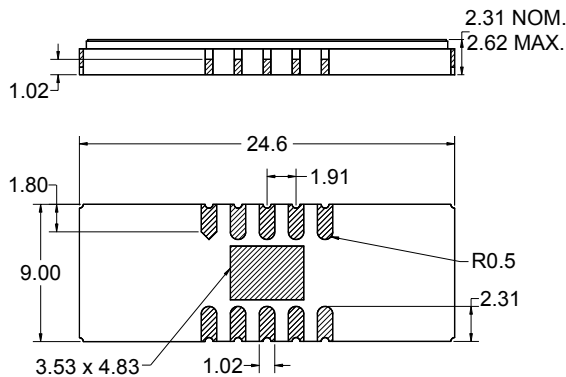
## Features

- For IF applications
- Typical 3 dB bandwidth of 0.7 MHz
- High attenuation
- Single-ended operation
- Ceramic Surface Mount Package (SMP)
- Replaces Sawtek P/N 851542 (BW 3dB = 0.5 MHz)
- Hermetic
- RoHS compliant (2002/95/EC), Pb-free 



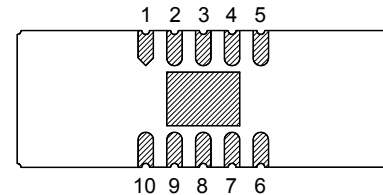
## Package

Surface Mount 24.60 x 9.00 x 2.31 mm



## Pin Configuration

Bottom View



Pin No.	Description
1	Input return
5	Output
6	Output return
10	Input
2,3,4,7,8,9	Case ground

Dimensions shown are nominal in millimeters  
 All tolerances are  $\pm 0.15\text{mm}$  except overall  
 length and width  $\pm 0.20\text{mm}$

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>

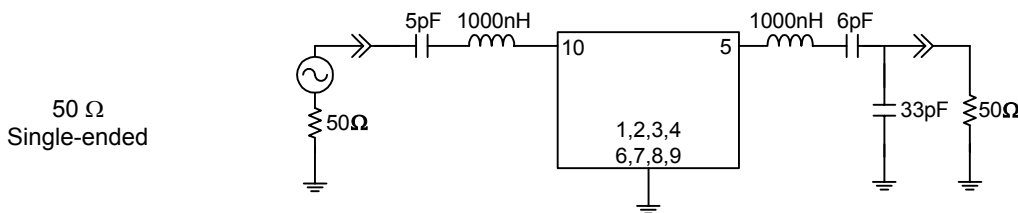
Operating Temperature Range: <sup>(2)</sup> 0 to +70 °C

Parameter <sup>(3)</sup>	Minimum	Typical	Maximum	Unit
<b>Center Frequency</b>	-	70	-	MHz
<b>Minimum Insertion Loss</b>	-	21.3	22	dB
<b>Upper 1 dB Point <sup>(4)</sup></b>	70.155	70.205	-	MHz
<b>Lower 1 dB Point <sup>(4)</sup></b>	-	69.795	69.845	MHz
<b>Upper 3 dB Point <sup>(4)</sup></b>	70.31	70.35	-	MHz
<b>Lower 3 dB Point <sup>(4)</sup></b>	-	69.65	69.69	MHz
<b>Upper 40 dB Point <sup>(4)</sup></b>	-	70.815	70.836	MHz
<b>Lower 40 dB Point <sup>(4)</sup></b>	69.165	69.185	-	MHz
<b>Absolute Attenuation</b>				
10 - 68 MHz	60	62	-	dB
72 - 85 MHz	45	55	-	dB
85 - 108 MHz	60	62	-	dB
108 - 140 MHz	50	55	-	dB
140 - 200 MHz	60	62	-	dB
<b>Amplitude Variation</b>				
69.85 - 70.15 MHz	-	0.8	1	dB p-p
<b>Phase Ripple</b>				
69.85 - 70.15 MHz	-	1.2	3	deg p-p
<b>Group Delay Variation</b>				
69.85 - 70.15 MHz	-	100	200	nsec p-p
<b>Source Impedance: <sup>(6)</sup></b>	-	50	-	Ω
<b>Load Impedance: <sup>(6)</sup></b>	-	50	-	Ω

### Notes:

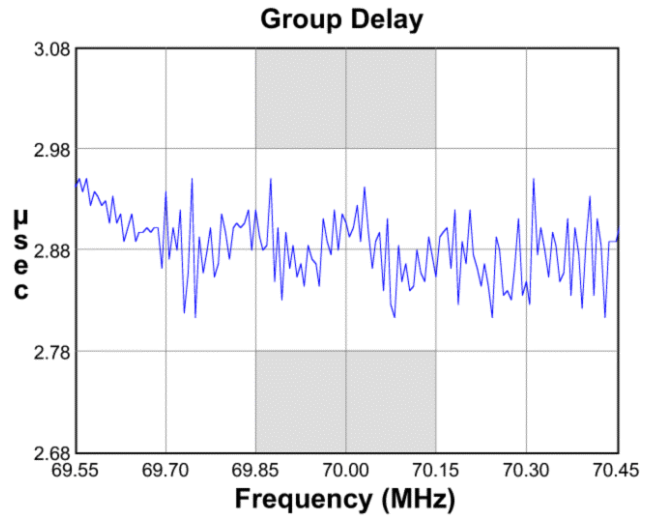
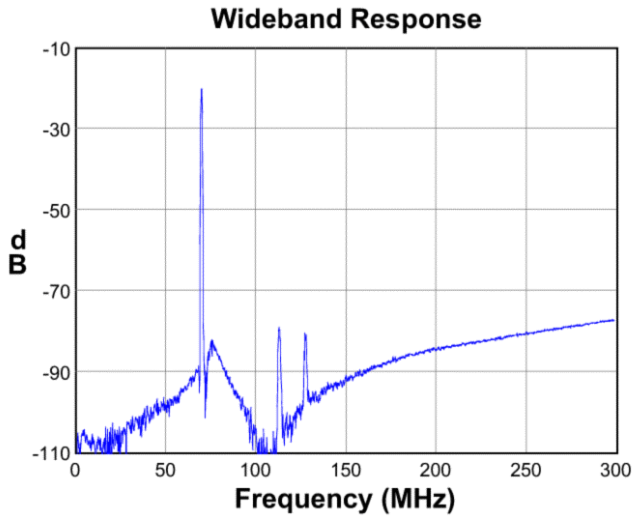
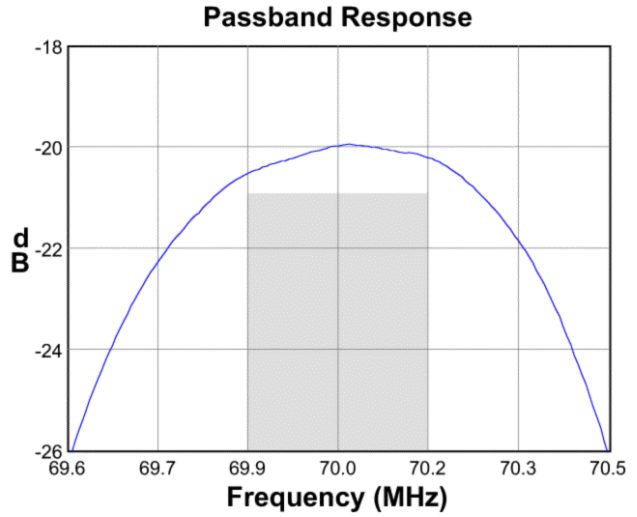
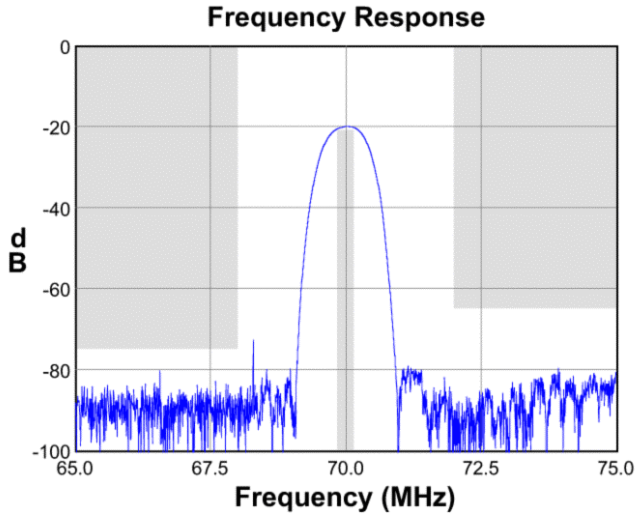
1. All specifications are based on the test circuit shown below
2. In production, devices will be tested at room temperature to a guardbanded specification to ensure electrical compliance over temperature
3. Electrical margin has been built into the design to account for the variations due to temperature 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:

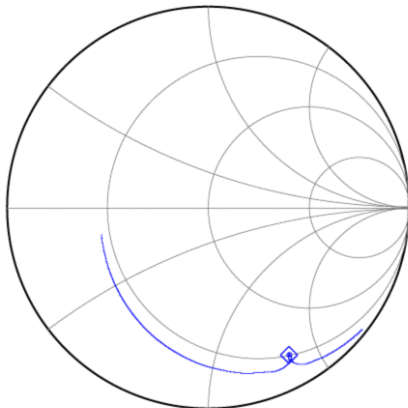


**Preliminary Data Sheet**

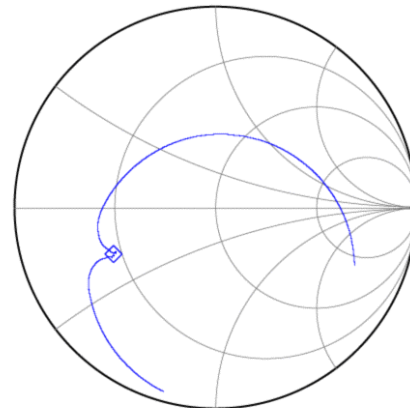
**Typical Performance (at +25°C)**



**Input Smith Chart**



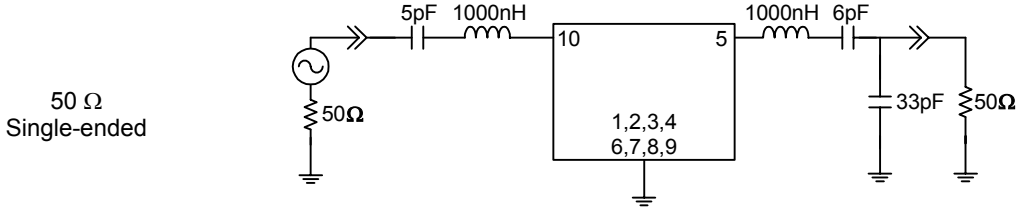
**Output Smith Chart**



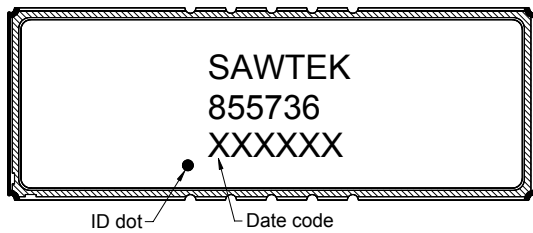
**Preliminary Data Sheet**

**Matching Schematics**

Actual matching values may vary due to PCB layout and parasitics

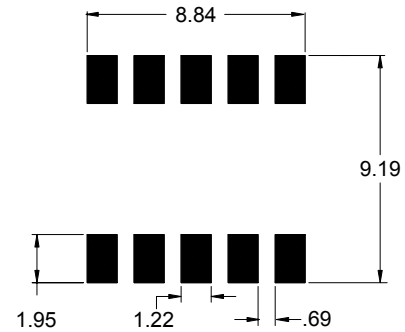


**Marking**



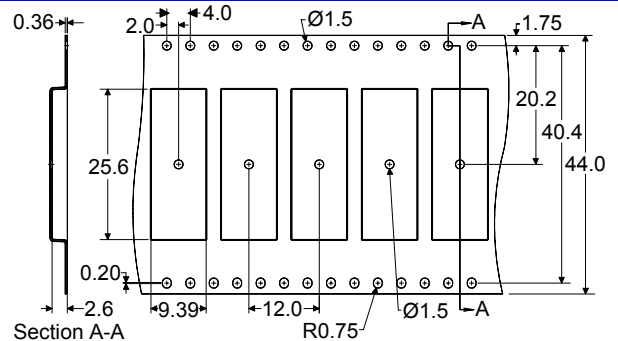
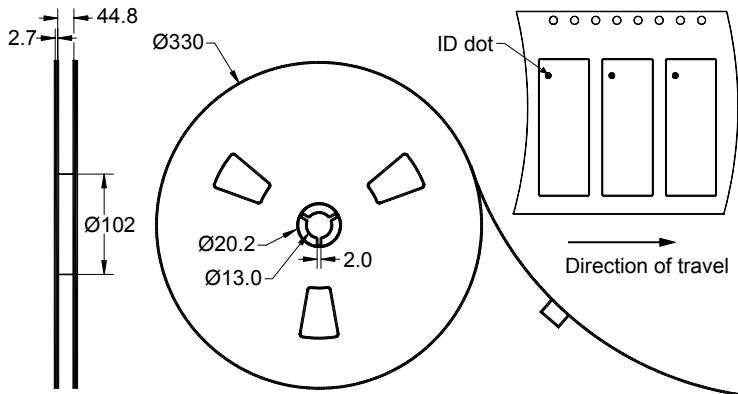
The date code consists of: day of the current year (Julian, 3 digits), last digit of the year (1 digit) and hour (2 digits)

**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: 1000 units/reel


# Preliminary Data Sheet

## Maximum Ratings


Parameter	Symbol	Minimum	Maximum	Unit
Operating Temperature Range	T	0	+70	°C
Storage Temperature Range	T <sub>stg</sub>	-40	+85	°C
RF Power	P <sub>in</sub>	-	+10	dBm

## 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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