
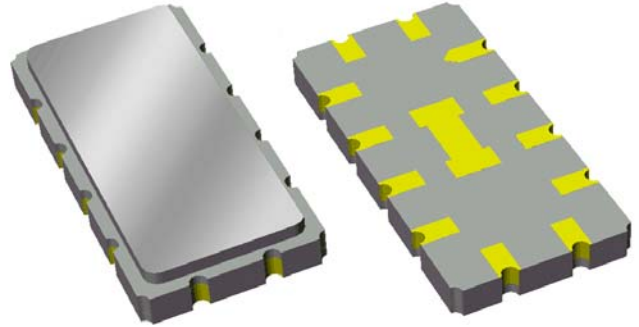


# Data Sheet

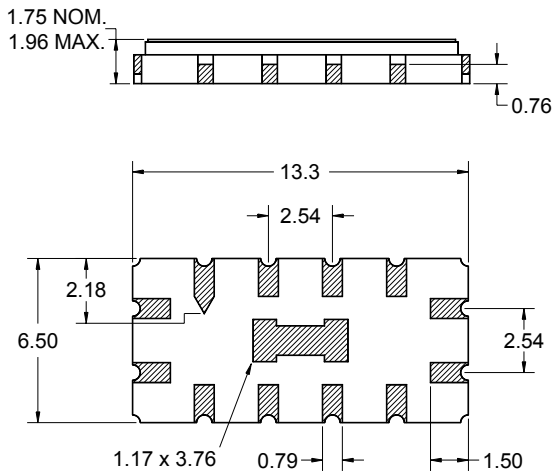
## Features

- Usable bandwidth of 32 MHz
- Typical 3 dB bandwidth of 33.4 MHz
- Low loss
- High attenuation
- Single-ended operation, 50Ω
- Ceramic Surface Mount Package (SMP)
- Hermetic
- RoHS compliant (2002/95/EC), Pb-free 



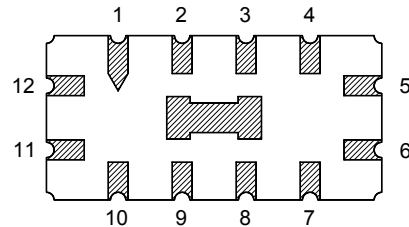
## Package

Surface Mount 13.30 x 6.50 x 1.75 mm



## Pin Configuration

Bottom View



Pin No.	Description
5	Output
11	Input
6,12	Ground
1,2,3,4	Case Ground
7,8,9,10	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 - 1.0μm,  
 over a 2 - 6μm Ni plating

**Data Sheet**
**Electrical Specifications <sup>(1)</sup>**

 Operating Temperature: <sup>(2)</sup> +25 °C

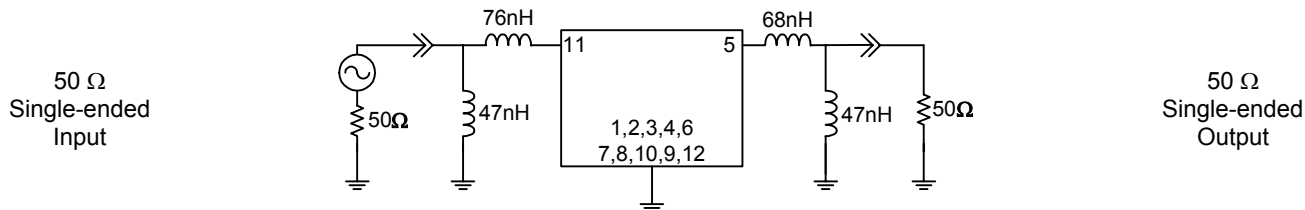
Parameter	Minimum	Typical	Maximum	Unit
Center Frequency	-	140	-	MHz
Insertion Loss at F <sub>0</sub>	-	11.5	13	dB
1 dB Bandwidth	30	32	-	MHz
3 dB Bandwidth	32	33.4	-	MHz
35 dB Bandwidth	-	38	44	MHz
Passband Ripple 127.2 - 152.8 MHz	-	0.55	1.2	dB
Phase Linearity 127.2 - 152.8 MHz	-	6.1	14	deg
Group Delay Variation 127.2 - 152.8 MHz	-	45	120	nsec
Absolute Delay	-	0.75	-	μsec
Temperature Coefficient	-	-94	-	ppm/°C
Source Impedance <sup>(3)</sup>	-	50	-	Ω
Load Impedance <sup>(3)</sup>	-	50	-	Ω

**Notes:**

1. All specifications are based on the test circuit shown below
2. All specifications are tested at room temperature only
3. This is the optimum impedance in order to achieve the performance shown

**Test Circuit:**

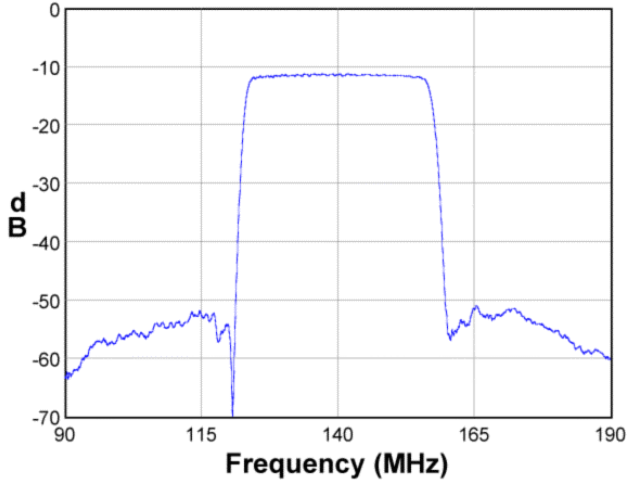
Actual matching values may vary due to PCB layout and parasitics



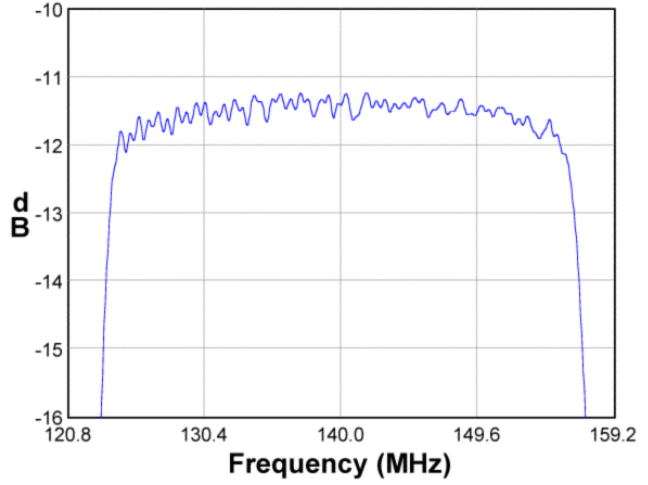
**Data Sheet**

**Typical Performance (at +25°C)**

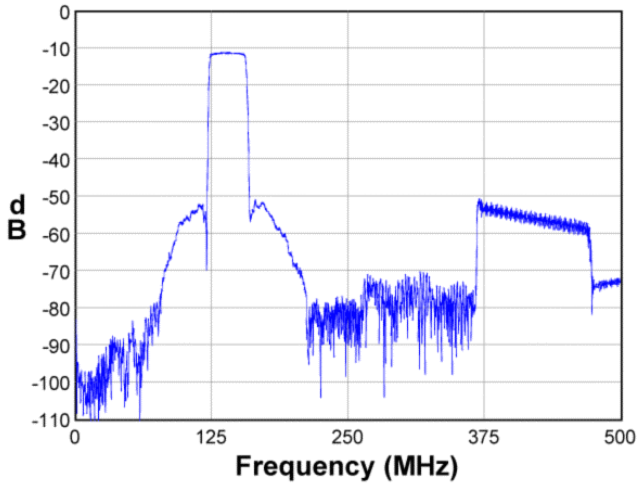
**Frequency Response**



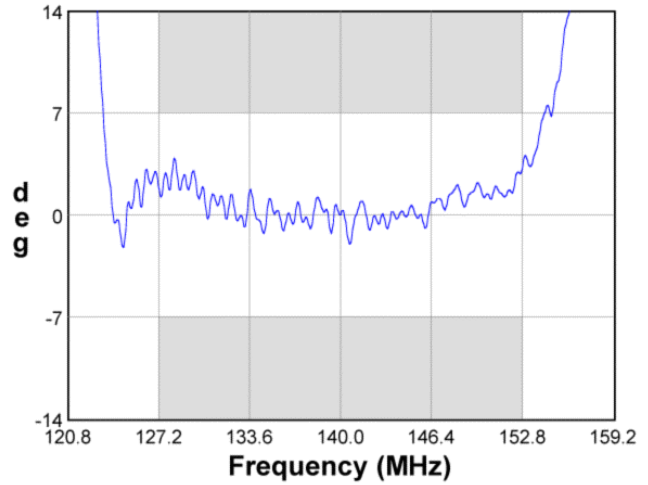
**Passband Response**



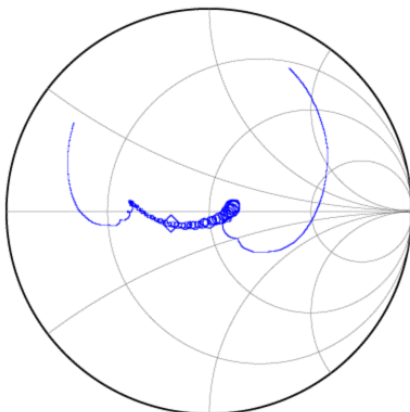
**Wide Response**



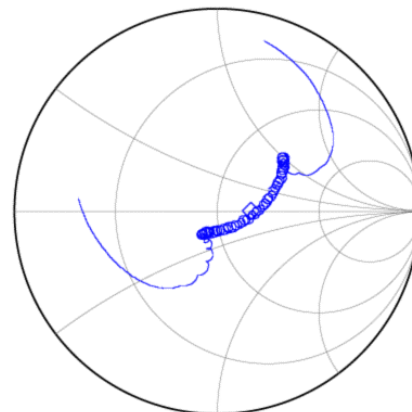
**Phase Linearity**



**Input Smith Chart**



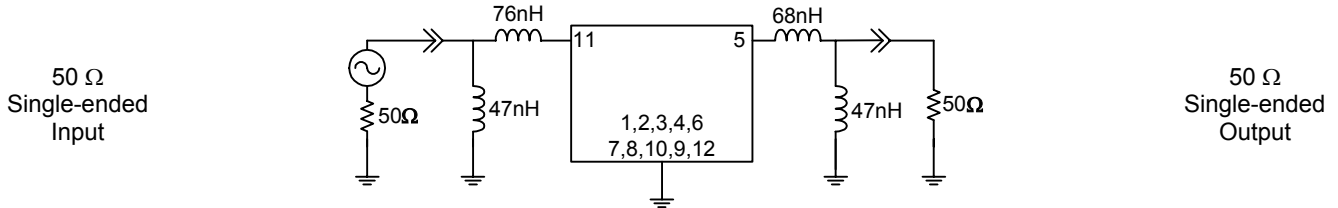
**Output Smith Chart**



**Data Sheet**

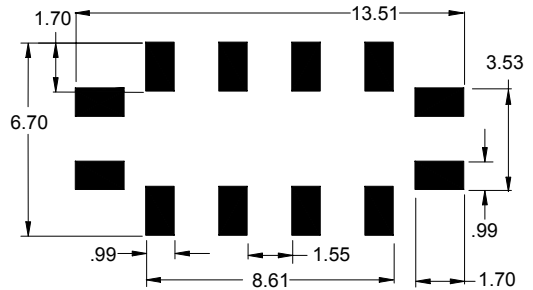
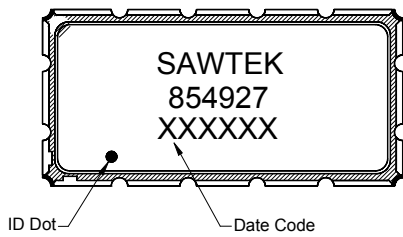
**Matching Schematics**

Actual matching values may vary due to PCB layout and parasitics



**Marking**

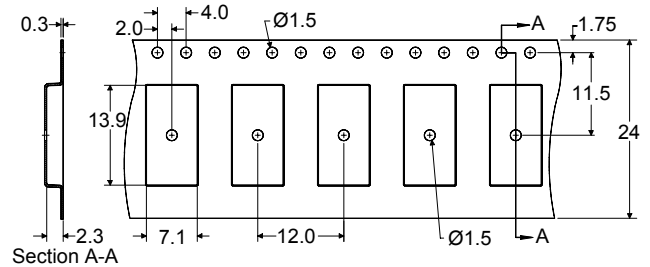
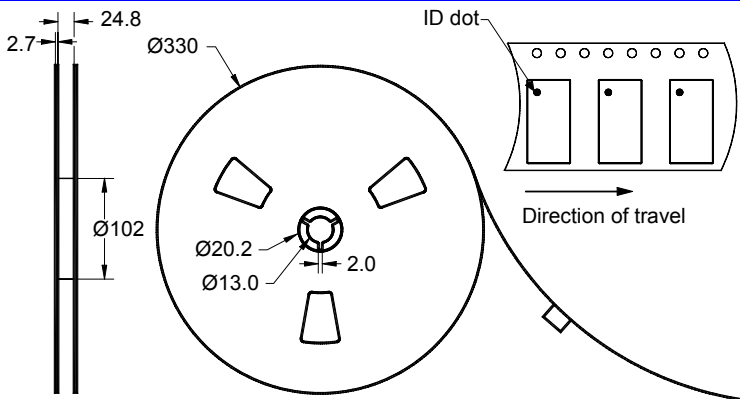
**PCB Footprint**



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

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


# Data Sheet

## Maximum Ratings


Parameter	Symbol	Minimum	Maximum	Unit
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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