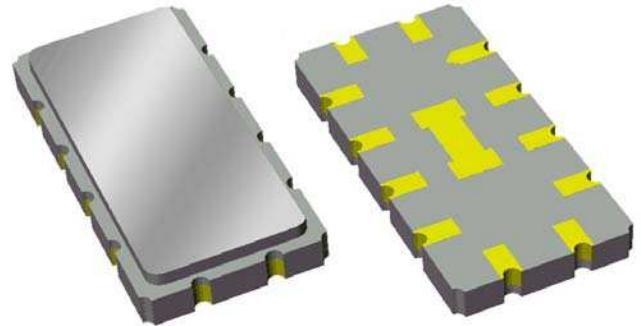


# Data Sheet

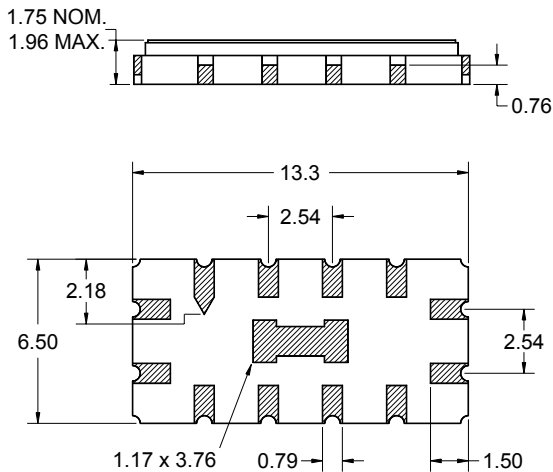
## Features

- Usable bandwidth of 4 MHz
- Typical 3 dB bandwidth of 4.6 MHz
- Low loss
- High attenuation
- Single-ended operation, 50Ω
- Ceramic Surface Mount Package (SMP)
- Hermetic



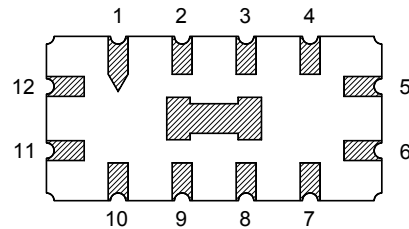
## Package

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 - 1.0 $\mu$ m,  
 over a 2 - 6 $\mu$ m Ni plating

# Data Sheet

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

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

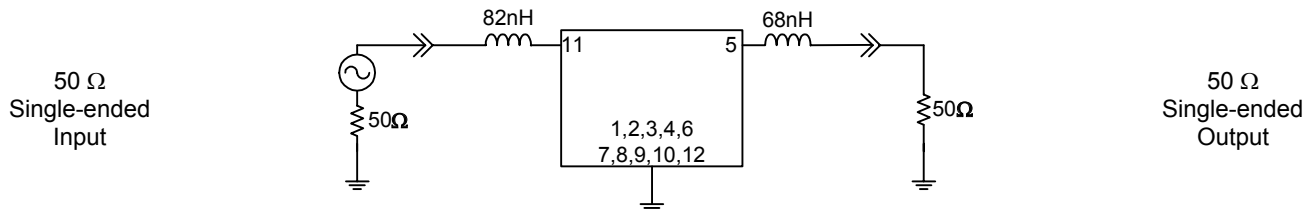
Parameter	Minimum	Typical	Maximum	Unit
<b>Center Frequency</b>	139.6	140	140.4	MHz
<b>Insertion Loss at F<sub>o</sub></b>	-	10.85	12.5	dB
<b>1 dB Bandwidth</b>	3.4	3.9	-	MHz
<b>3 dB Bandwidth</b>	4	4.6	-	MHz
<b>40 dB Bandwidth</b>	-	7.46	9.1	MHz
<b>Passband Ripple</b> 138.4 - 141.6 MHz	-	0.42	1	dB
<b>Phase Linearity</b> 138.4 - 141.6 MHz	-	2	6	deg
<b>Group Delay Variation</b> 138.4 - 141.6 MHz	-	27	100	nsec
<b>Absolute Delay</b>	-	1.2	-	μsec
<b>Temperature Coefficient</b>	-	-23	-	ppm/°C
<b>Source Impedance <sup>(3)</sup></b>	-	50	-	Ω
<b>Load Impedance <sup>(3)</sup></b>	-	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

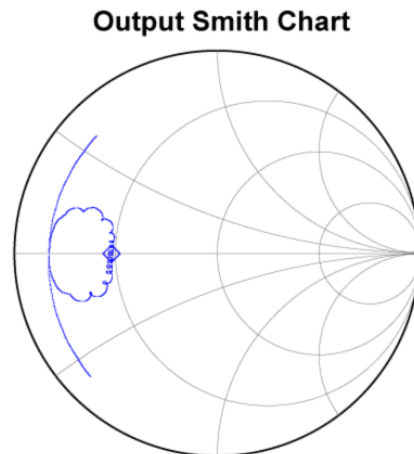
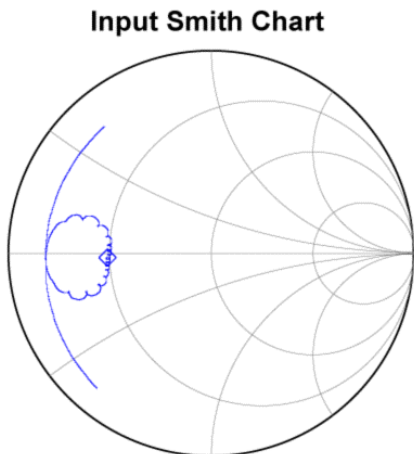
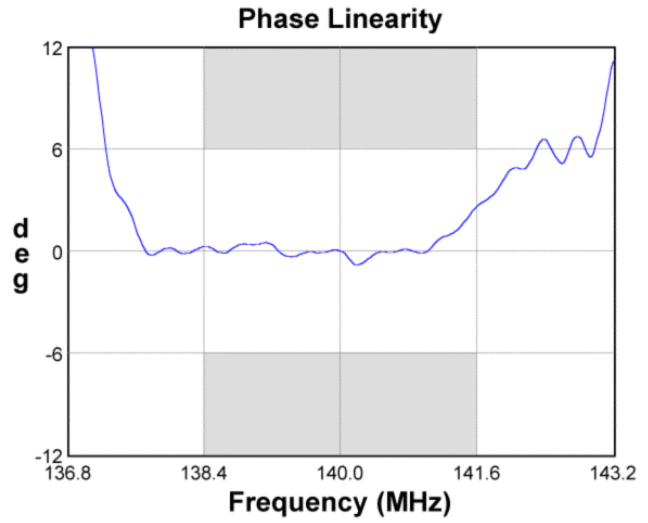
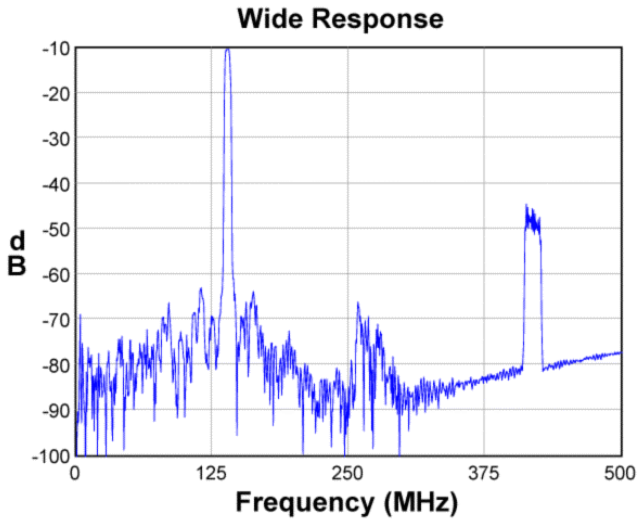
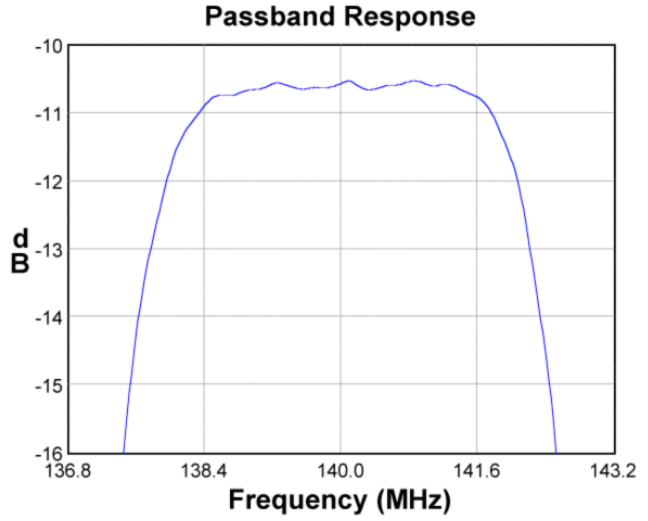
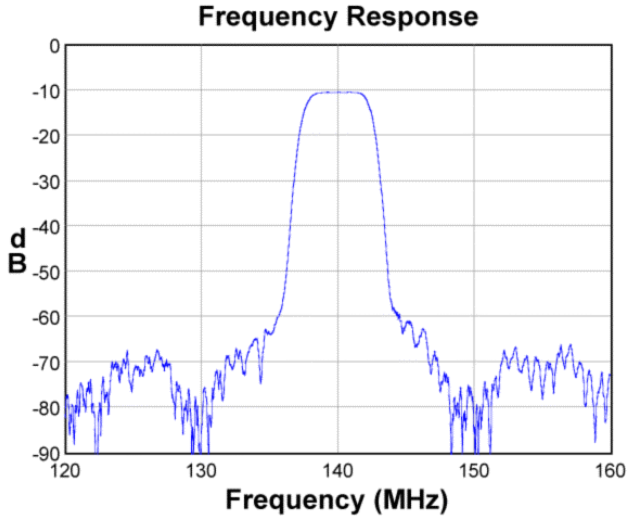
### Test Circuit:

Actual matching values may vary due to PCB layout and parasitics



**Data Sheet**

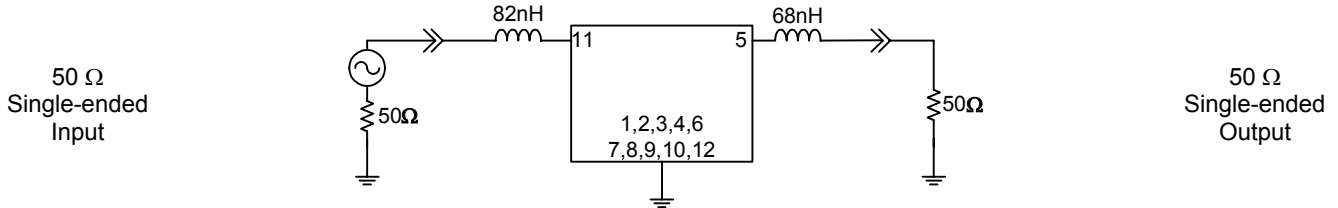
**Typical Performance (at +25°C)**



**Data Sheet**

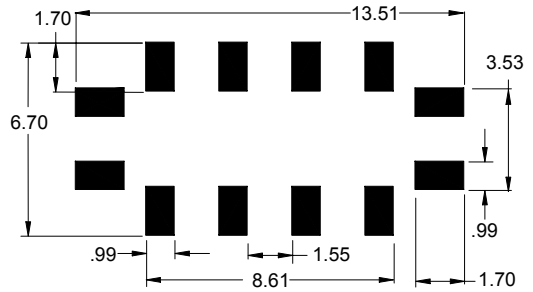
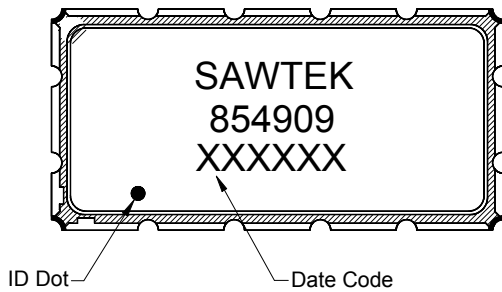
**Matching Schematics**

Actual matching values may vary due to PCB layout and parasitics



**Marking**

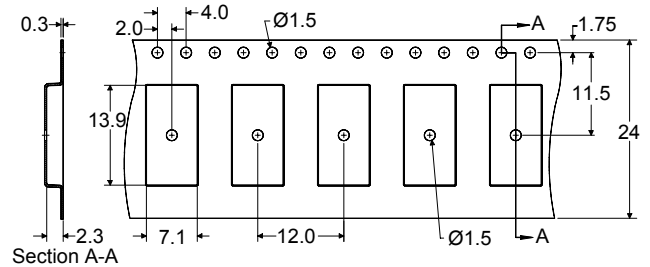
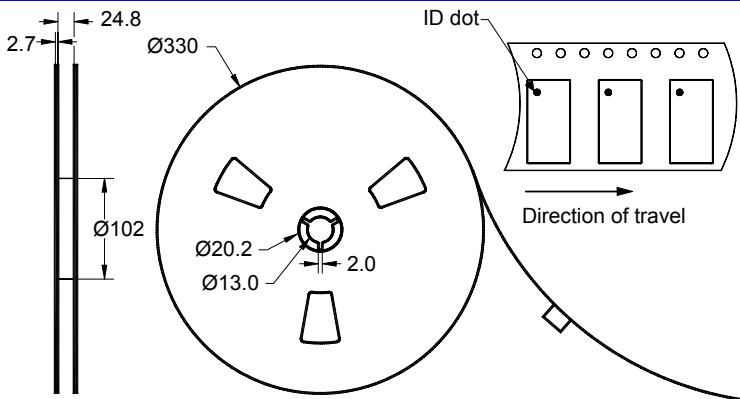
**PCB Footprint**



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

**Warnings**

- Electrostatic Sensitive Device (ESD)
- Avoid ultrasonic exposure



**Material Content**

- Does not contain lead (Pb) or other RoHS restricted materials

**Links to Additional Technical Information**

[PCB Layout Tips](#)

[Qualification Flowchart](#)

[Soldering Profile](#)

[S-Parameters](#)

[Other Technical Information](#)

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