
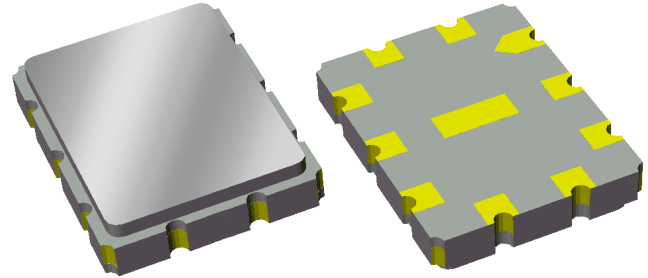


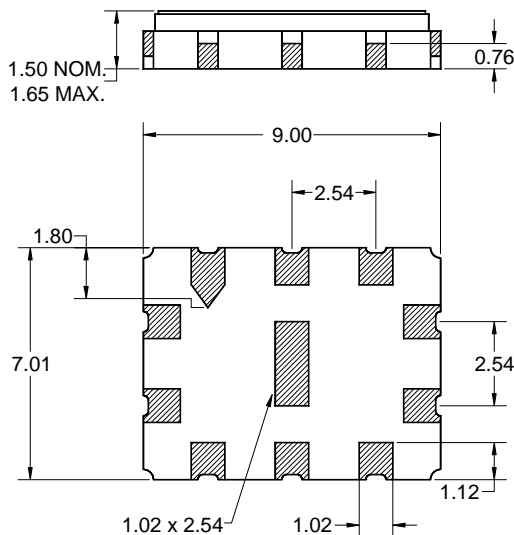
## Features

- For broadband applications
- Usable 1.5dB bandwidth of 75 MHz
- High attenuation
- Single-ended operation
- Ceramic Surface Mount Package (SMP)
- Small Size
- Hermetic
- RoHS compliant (2002/95/EC), Pb-free 



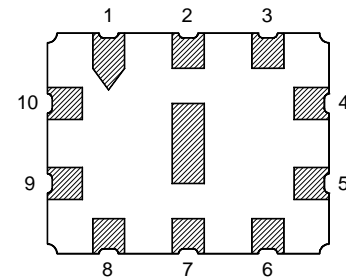
## Package

Surface Mount 9.10 x 7.01 x 1.5 mm  
SMP-35B



## Pin Configuration

Bottom View



### Single-ended Configuration

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

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

Operating Temperature Range: <sup>(2)</sup> -25 to +70 °C

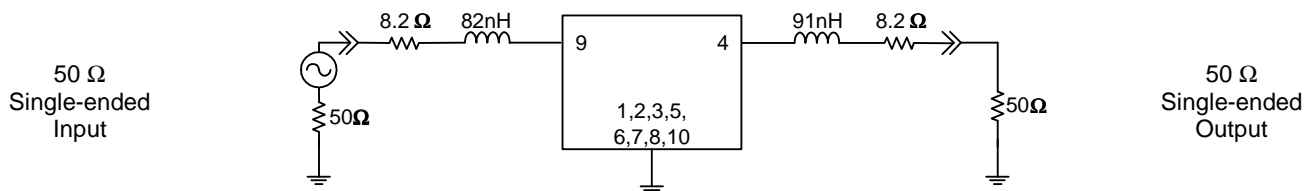
Parameter <sup>(3)</sup>	Minimum	Typical <sup>(4)</sup>	Maximum	Unit
Center Frequency	-	144	-	MHz
Insertion Loss at Center Frequency	-	21.20	22.50	dB
Lower 1.5 dB Bandedge <sup>(5)</sup>	-	101.50	106.50	MHz
Upper 1.5 dB Bandedge <sup>(5)</sup>	181.50	184.15	-	MHz
Lower 3 dB Bandedge <sup>(5)</sup>	-	100.42	104	MHz
Upper 3 dB Bandedge <sup>(5)</sup>	184	185.51	-	MHz
Lower 40 dB Bandedge <sup>(5)</sup>	85.50	91.81	-	MHz
Upper 40 dB Bandedge <sup>(5)</sup>	-	199.60	202.50	MHz
Passband Ripple 106.5 – 181.5 MHz	-	0.56	1.5	dB p-p
Phase Linearity 113 – 175 MHz	-	4.55	9	° p-p
Group Delay Variation 113 – 175 MHz	-	46.06	100	ns p-p
Absolute Group Delay	-	0.62	0.97	
Stopband Rejection <sup>(5)</sup>				
1 – 85.5 MHz	40	43.21	-	dB
202.5 – 260 MHz	38	44.80	-	dB
260 – 1000 MHz	35	40.80	-	
Source Impedance (single-ended) <sup>(6)</sup>	-	50	-	Ω
Load Impedance (single-ended) <sup>(6)</sup>	-	50	-	Ω

**Notes:**

1. All specifications are based on the TriQuint 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. Typical values are based on average measurements at room temperature
5. Relative to insertion loss at center frequency
6. This is the optimum impedance in order to achieve the performance shown

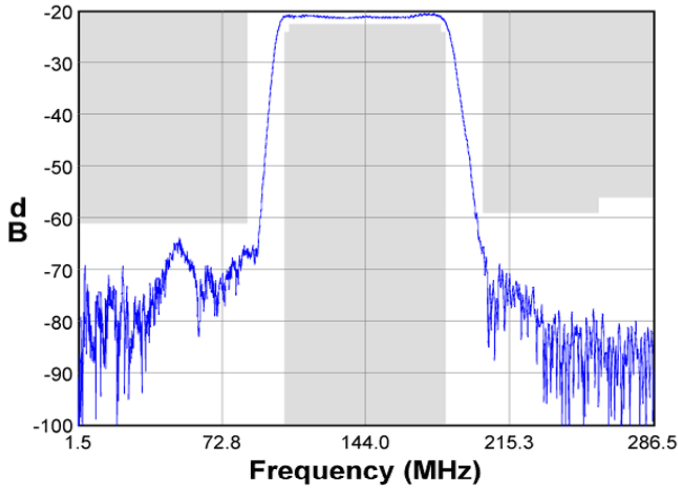
**Test Circuit:**

Actual matching values may vary due to PCB layout and parasitics

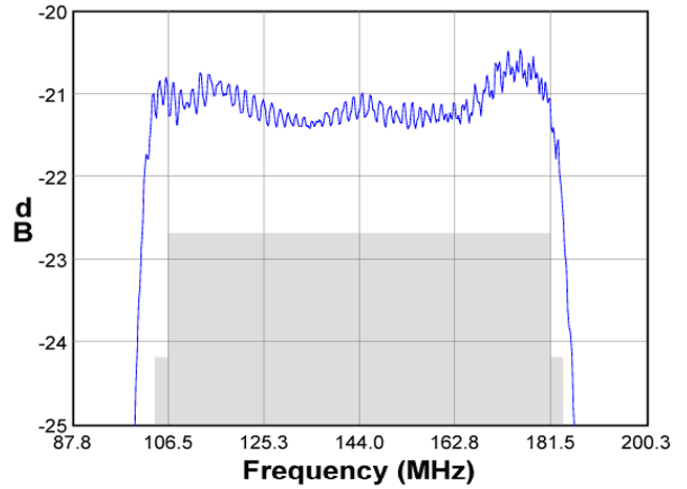


**Typical Performance (at room temperature)**

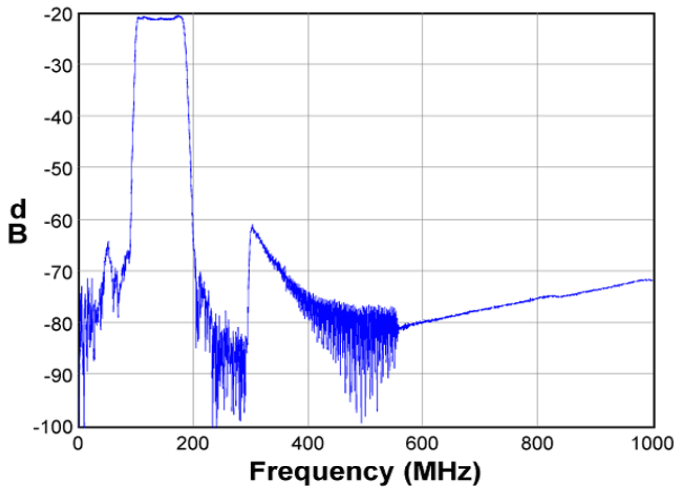
**Frequency Response**



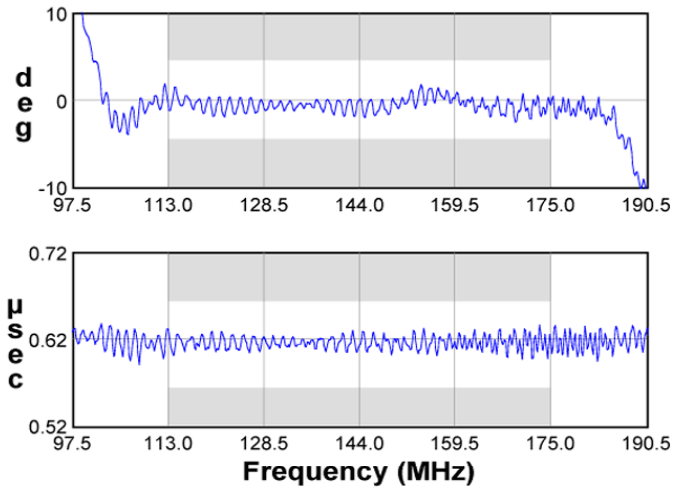
**Passband Response**



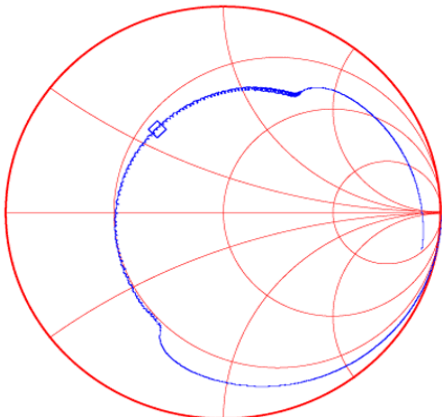
**Wideband Response**



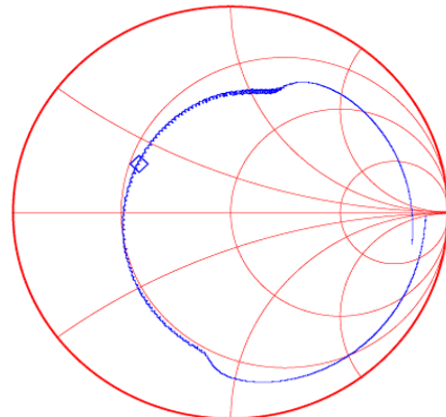
**Phase / Group Delay**



**Input Smith Chart**

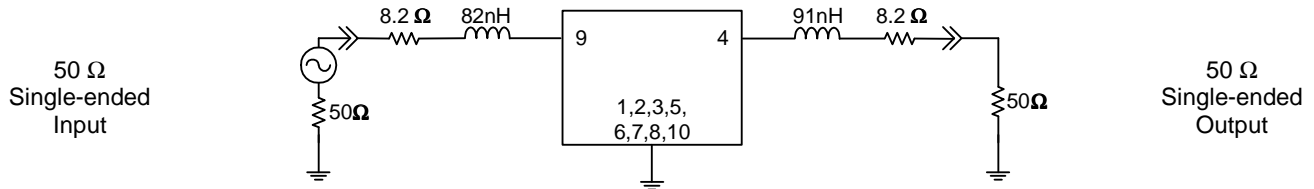


**Output Smith Chart**

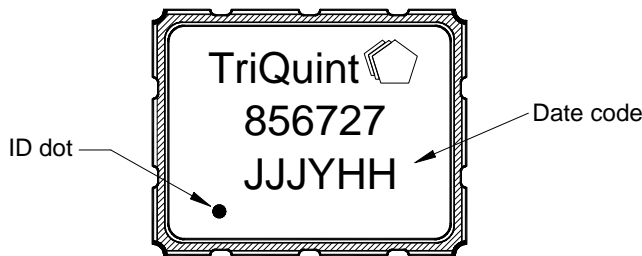


**Matching Schematics**

Actual matching values may vary due to PCB layout and parasitics

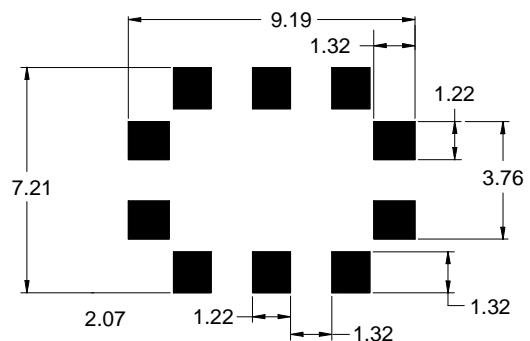


**Marking**



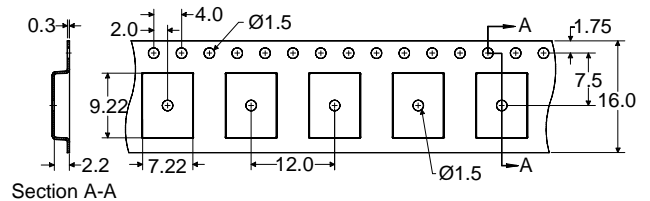
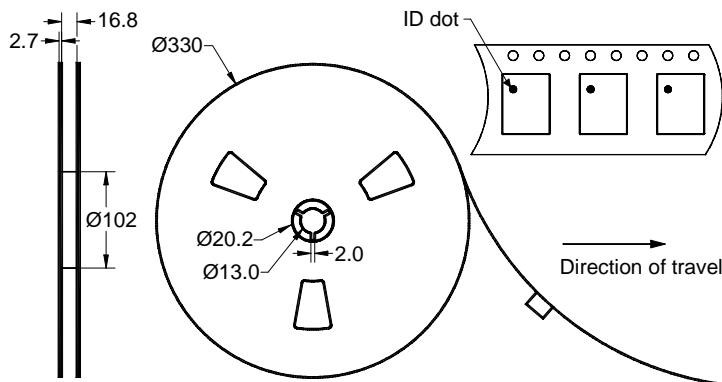
The date code consists of: day of the current year (Julian, 3 digits), last digit of the year (1 digit) and hour (2 digits)

**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

### Maximum Ratings


Parameter	Symbol	Minimum	Maximum	Unit
Operating Temperature Range	T	-40	+85	°C
Storage Temperature Range	T <sub>stg</sub>	-40	+85	°C
Temperature Coefficient of Frequency	-	-	-74	ppm/°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 JESD22-B102, Pb-free process, 260C 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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