

# 11.75GHz Surface Mount Bandpass Filter

## B117NB5S

### DESCRIPTION

This DLI brand surface mount catalog band pass filter is designed to cover Satcom band centered at 11.725GHz. This BPF utilizes DLI’s low loss temperature stable materials which offer small size and minimal performance variation over temperature while leveraging thin film technology to offer a drop in solution with highly repeatable performance.

### FEATURES

- Small Size
- Fully Shielded Component
- Solder Surface Mount
- Moisture Sensitivity Level: MSL1
- Frequency Stable over Temperature
- Operating & Storage Temp: -55°C to +125°C
- Characteristic Impedance: 50Ω

### Packaging and Ordering Information:

To request tape and reel packaging, please order part number B117NBB5S-T



### SPECIFICATIONS\*

| Parameter  | Frequency Range (GHz)                              | Min  | Typ. | Max |
|--|--|------|------|-----|
| Insertion Loss (dB)                              | 10.7 - 12.75                                       |      | 1.8  | 3.0 |
| Return Loss (dB)                                 |  | 10.0 | 20.0 |     |
| Low Side Rejection (dB)                          | DC - 9.5   | 60.0 | 65.0 |     |
| High Side Rejection (dB)                         | 13.75 –14.5  | 50.0 | 60.0 |     |
|  | 14.0—14.5  | 55.0 | 62.0 |     |
|  | 14.5– 22.0   | 55.0 | 70.0 |     |
|  | 22.0 –28.5   | 40.0 | 60.0 |     |
| CW Input Power** (W)                             |  |      |      | 15  |
| $\theta_{JC} \left( \frac{^{\circ}C}{W} \right)$ | 5  |      |      |     |
| Size (L x W x H)                                 | 0.450 x 0.175 x 0.098 in<br>11.43 x 4.45 x 2.49 mm |      |      |     |

\*Electrical specifications based on typical probed performance at room temperature. Insertion loss shall vary ±0.5dB over temperature.

\*\*Power rating assumes the component will be mounted to a PCB with good thermally conducting ground vias as

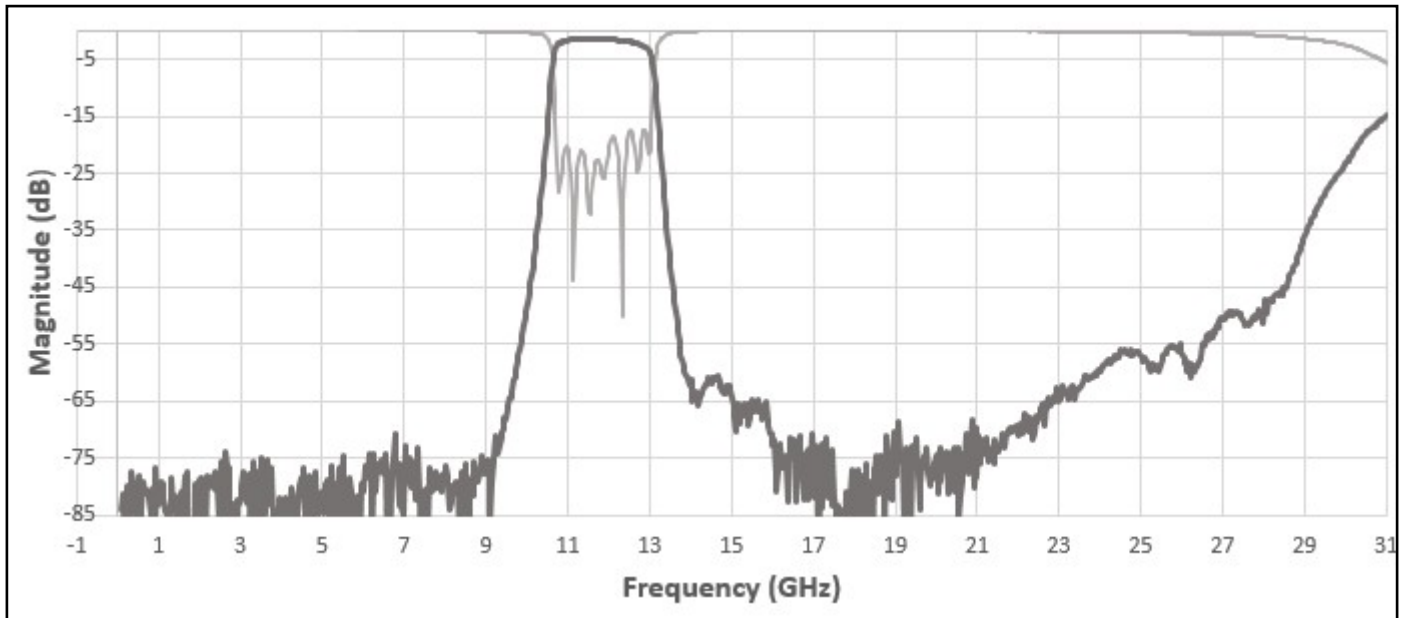
Information in this document is for informational and guideline purposes only. All information regarding the Product described in this datasheet is subject to change from time to time at Knowles Precision Devices’ sole discretion. It is the customer’s sole responsibility to evaluate the suitability of the Product in the customer’s particular application. Knowles Precision Devices assumes no responsibility or liability for the use of the information contained within.

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### Typical Measured Performance



\*Typical de-embedded measured performance mounted on a connectorized test fixture. DEB is 0.010in RO4350B with 50.0Ohm CPW ground traces going into the ports at room temperature.

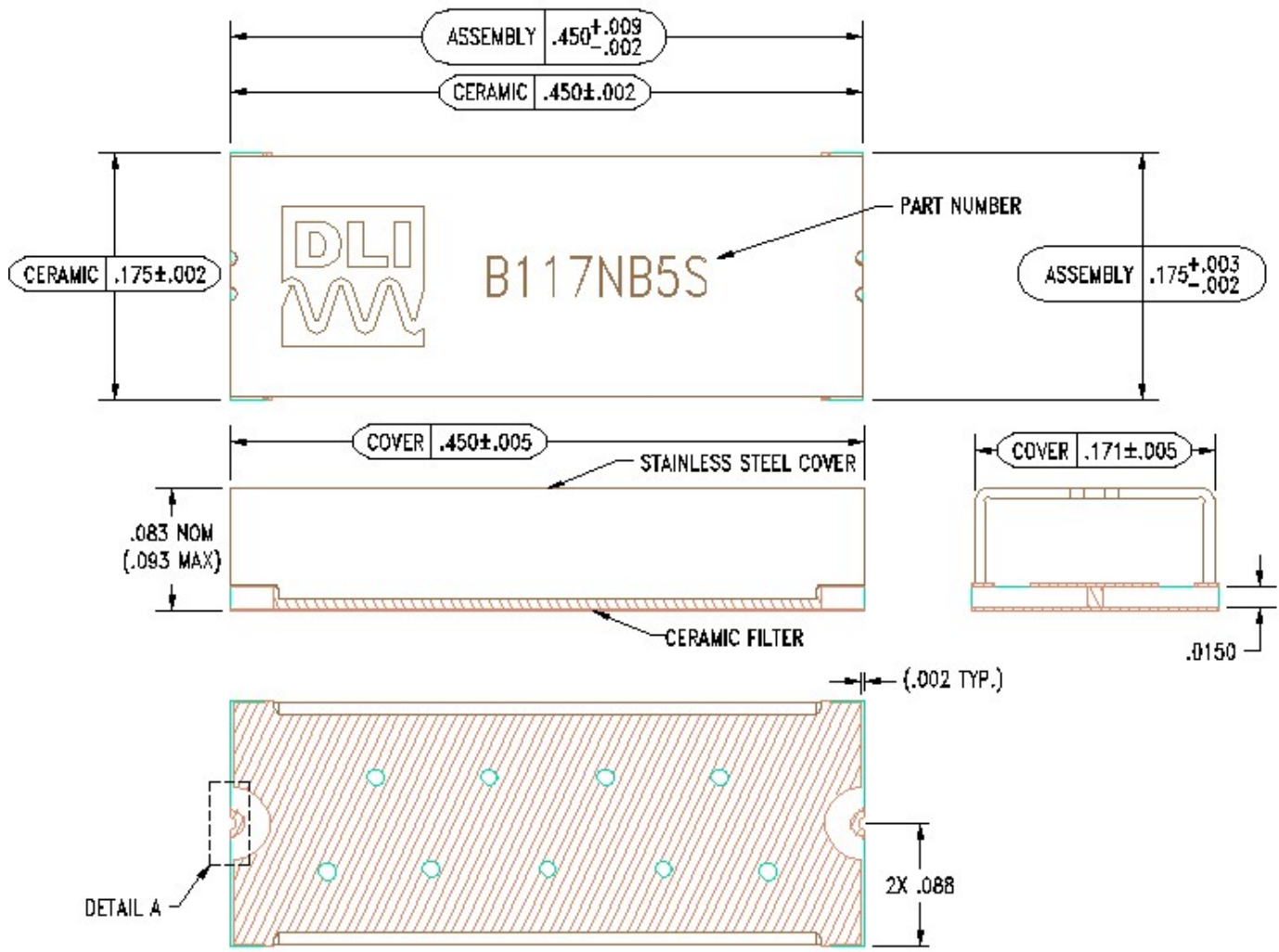
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## Physical Dimensions

Units = inches



### Notes :

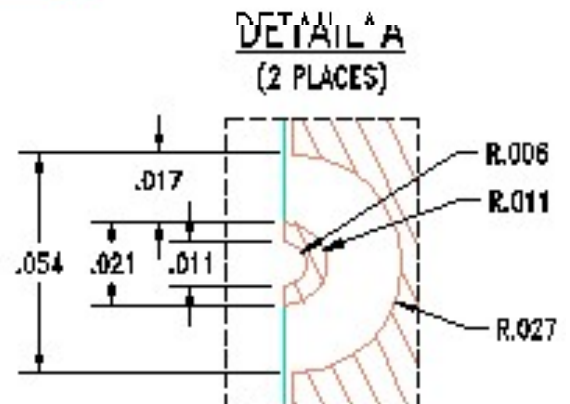
#### 1. Termination Finish:

ENIG: 3 - 6  $\mu$ inch Au over 50  $\mu$ inch Ni

#### Tolerances:

For values with 3 decimal places  $\pm 0.001$

For values with 4 decimal places  $\pm 0.0005$



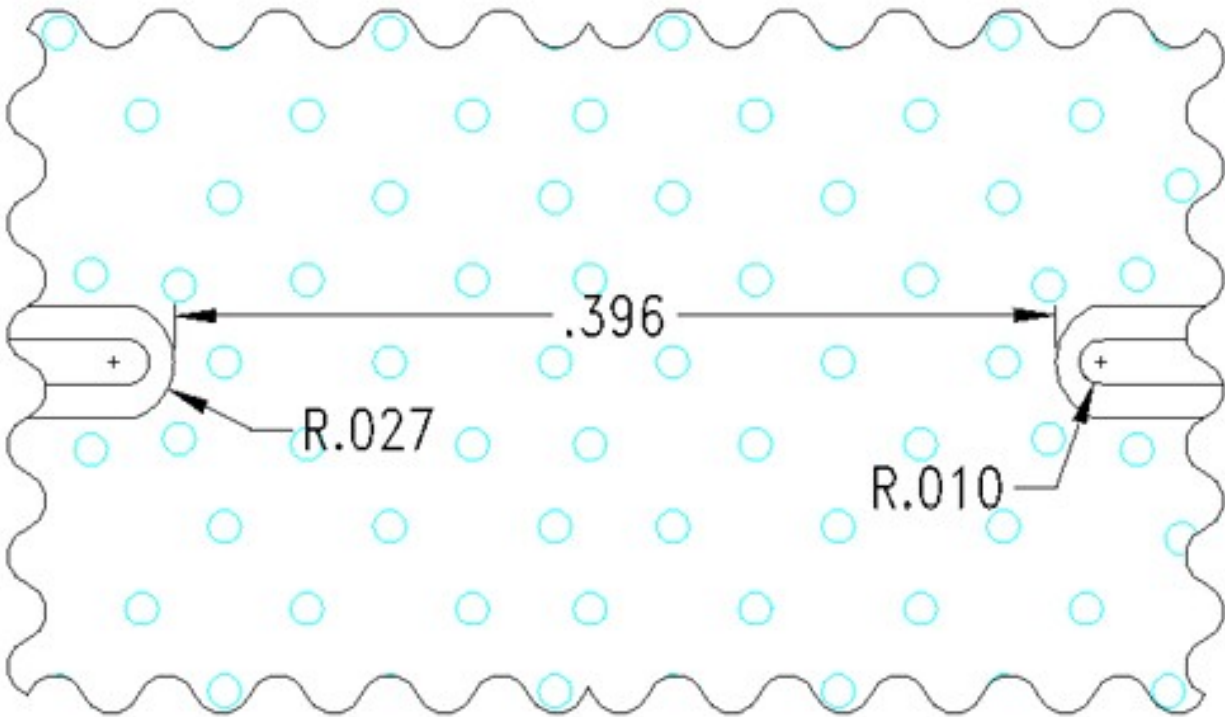
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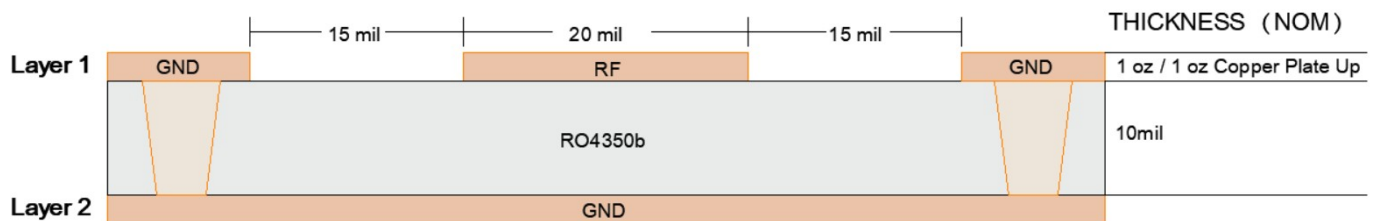
## Recommended PCB Layout

Unit = inches



### PCB RECOMMENDED STACKUP

Filter is matched to RF layer stackup seen below  
 Dimensions are specified below in inches (not to scale)  
 Board material : RO4350b  
 Board material design dk : 3.66  
 CPWG : 20mil trace width, 15mil gaps



For further details and best practices, reference the **Microwave Products Guide**, available at:  
<https://www.knowlescapacitors.com/Support/Catalogs>

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