# 1.227GHz Surface Mount Bandpass Filter

**B012MD5S**

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## DESCRIPTION

DLI's surface mount catalog bandpass filters utilize DLI's low loss temperature stable materials which offer small size and minimal performance variation over temperature. The catalog BPF's are offered in a variety of frequency bands, which offers a drop in solution with highly repeatable performance.

## FEATURES

- Small Size
- Fully Shielded Component
- Solder Surface Mount Package
- 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 B012MD5S-T, see additional data on page 5.

## SPECIFICATIONS*

| Parameter | Frequency Range (GHz) | Min | Typ. | Max |
|---|---|---|---|---|
| **Insertion Loss (dB)** | 1.220 - 1.234 | | 2.5 | 3.5 |
| **Return Loss (dB)** | | 10.0 | | |
| **Low Side Rejection (dB)** | DC - 0.925 | 40.0 | 45.0 | |
| **High Side Rejection (dB)** | 1.45 - 2.5 | 40.0 | 50.0 | |
| **CW Input Power** (W)** | | | | 5 |
| $\theta_{JC}$ $\left(\frac{°C}{W}\right)$ | 15 | | | |
| **Size (L x W x H)** | 0.460 x 0.460 x 0.113 in<br>11.68 x 11.68 x 2.87 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 outlined in the recommended PCB layout that are connected to an adequate heat sink. Max power is based on 125°C base temperature.

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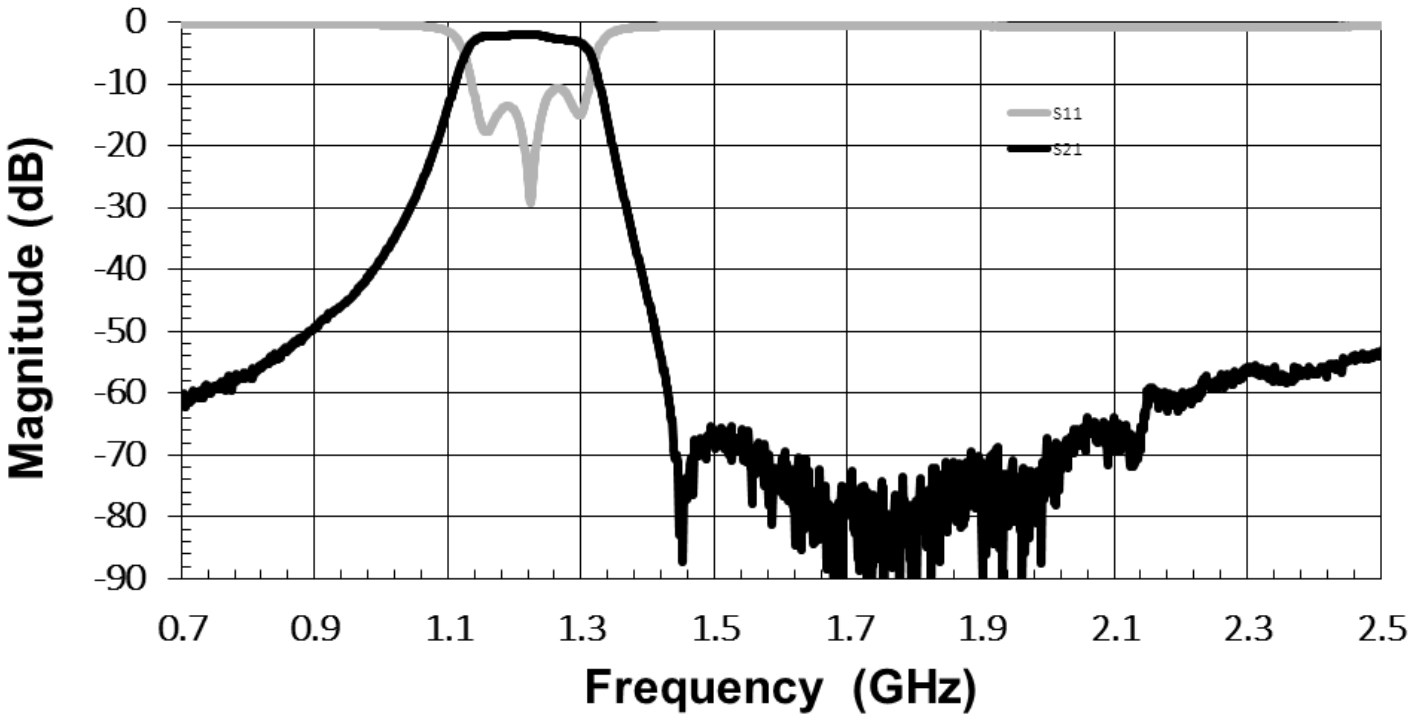
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### Typical Measured Performance




*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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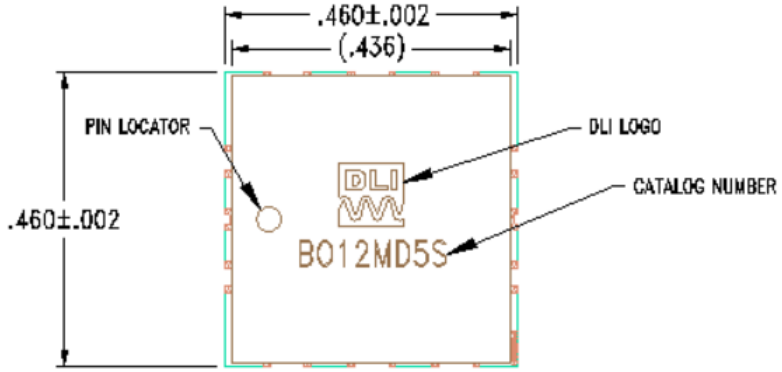
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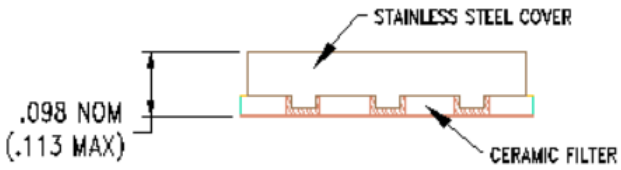
## Physical Dimensions

Units = inches

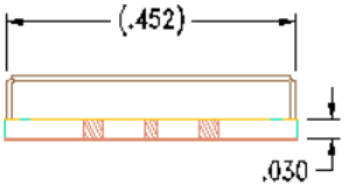
### Top View



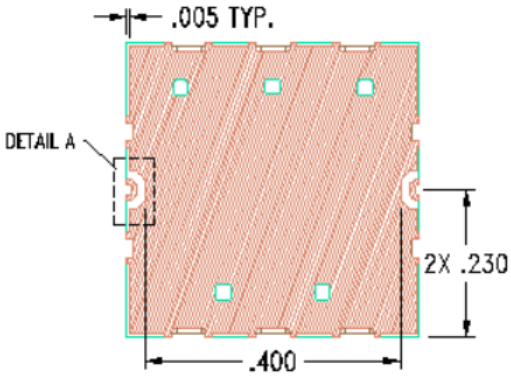

### Side View

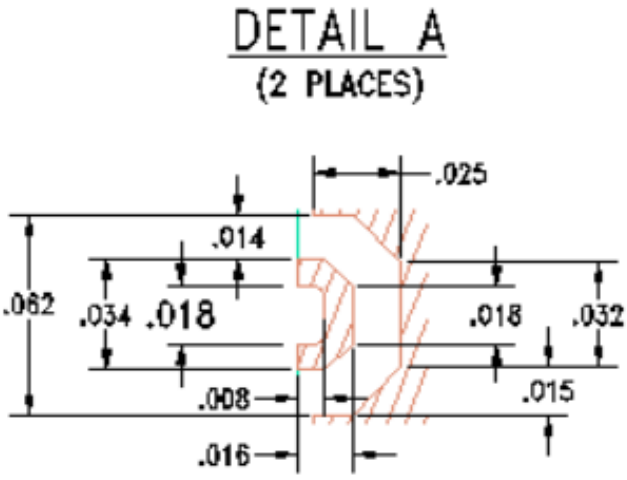



### End View




### Bottom View




**Notes :**

1. Termination Finish:

   ENIG: 3 - 6 µinch Au over 50 µinch Ni

2. Maximum Assembly Process Temperature: 250°C

**Tolerances:**

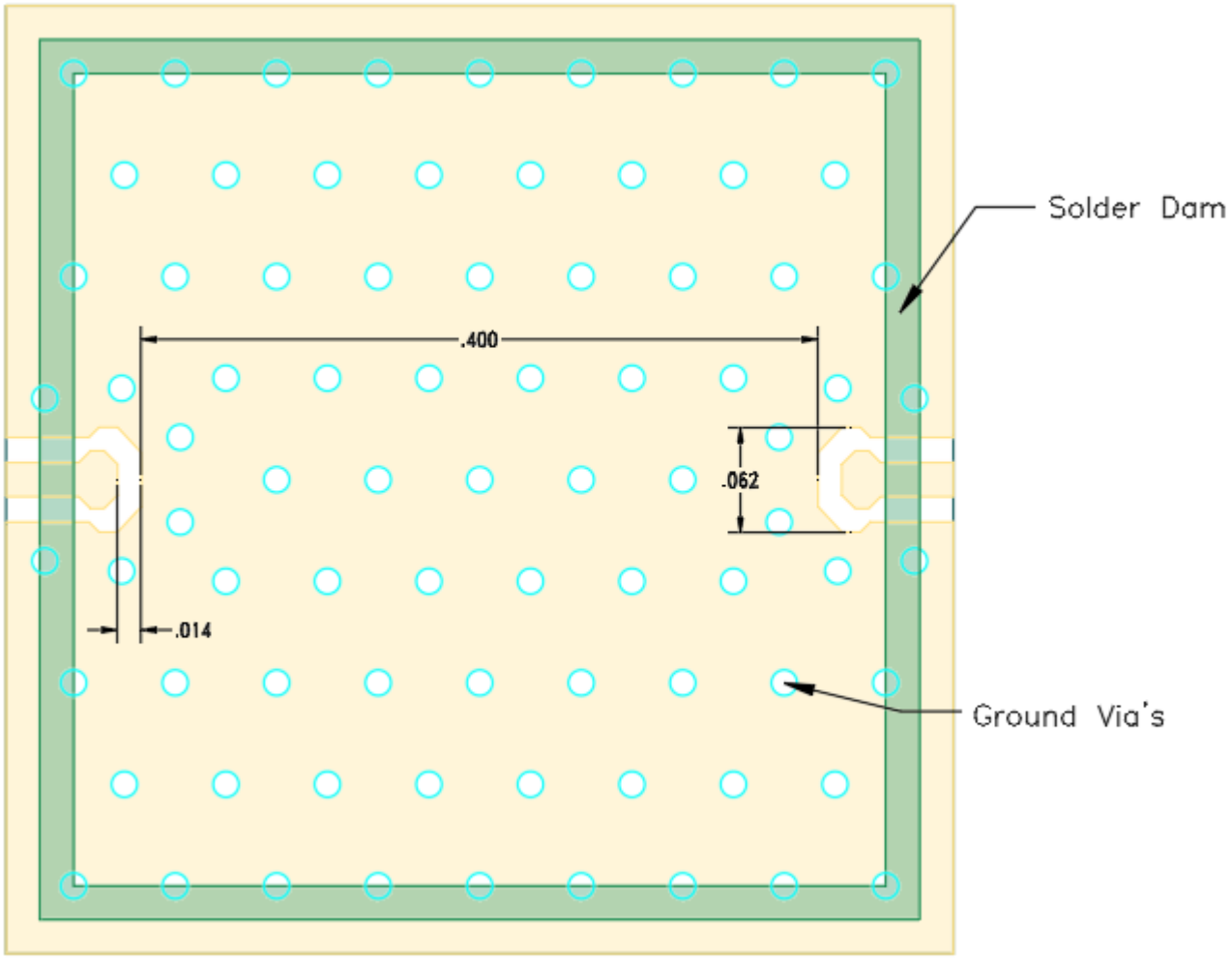
For values with 3 decimal places ±0.001

For values with 4 decimal places ±0.0005


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## Recommended PCB Layout




Unit = inches

**Note:**

- 50Ω trace dimensions are application specific.
- Ensure adequate grounding beneath the part.

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

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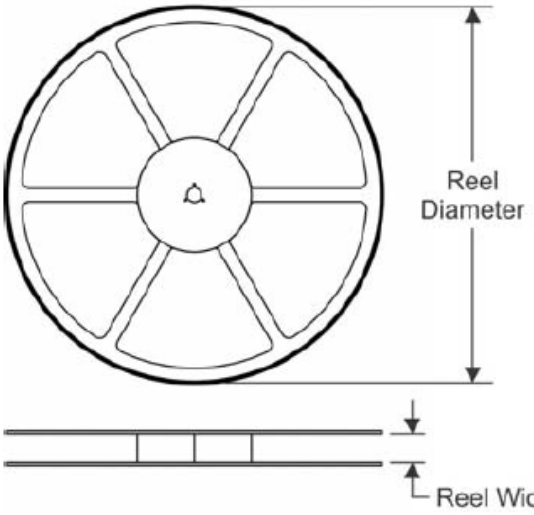
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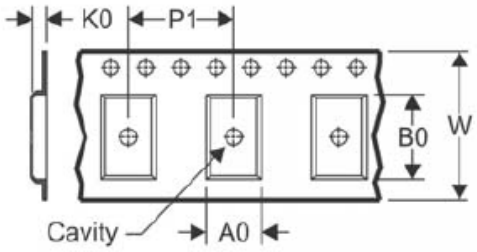
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## TAPE AND REEL INFORMATION

### REEL DIMENSIONS

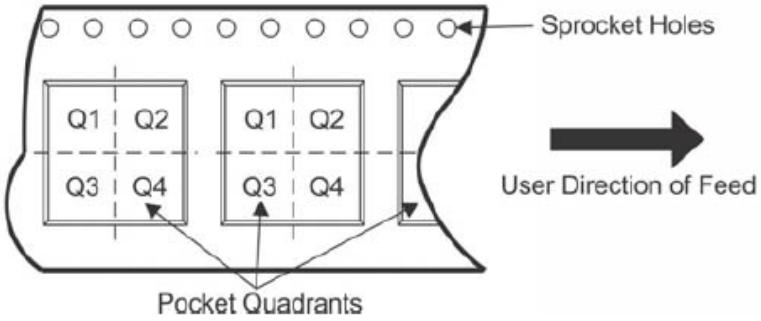



### TAPE DIMENSIONS




| | |
|---|---|
| A0 | Dimension designed to accommodate the component width |
| B0 | Dimension designed to accommodate the component length |
| K0 | Dimension designed to accommodate the component thickness |
| W | Overall width of the carrier tape |
| P1 | Pitch between successive cavity centers |

### QUADRANT ASSIGNMENTS FOR PIN 1 ORIENTATION IN TAPE




*All dimensions are nominal

| Device | Package Type | Reel Diameter (mm) | Reel Width W1 (mm) | A0 (mm) | B0 (mm) | K0 (mm) | P1 (mm) | W (mm) | Pin1 Quadrant |
|---|---|---|---|---|---|---|---|---|---|
| B012MD5S-T | SMD | 180 | 24.4 | 12. | 12. | 3. | 16 | 24 | Q1&2 |


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