

16.0GHz Surface Mount Highpass Filter

H160XHXS

www.knowlesc capacitors.com

DESCRIPTION

DLI's high frequency surface mount catalog highpass filters utilize DLI's high dielectric ceramic materials which provide small size and minimal performance variation over temperature. The catalog HPF's are offered in a variety of frequency bands, which offers a drop in solution for high frequency attenuation.

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 H160XHXS-T, see additional data on page 5.



SPECIFICATIONS*

| Parameter | Frequency Range (GHz) | Min | Typ. | Max |
|----------------------------------------------------------------|----------------------------------------------------|------|------|-----|
| Insertion Loss (dB) | 16.5 - 32.5 | | 1.0 | 2.5 |
| Return Loss (dB) | | 12.0 | 15.0 | |
| Low Side Rejection (dB) | DC - 12.1 | 30.0 | | |
| CW Input Power** (W) | | | | 15 |
| $\theta_{JC} \left(\frac{^{\circ}\text{C}}{\text{W}} \right)$ | | | 5 | |
| Size (L x W x H) | 0.450 x 0.175 x 0.098 in 11.43 x 4.45 x 2.49 mm | | | |

*Electrical specifications based on typical probed performance at room temperature. Insertion loss shall vary $\pm 0.5\text{dB}$ 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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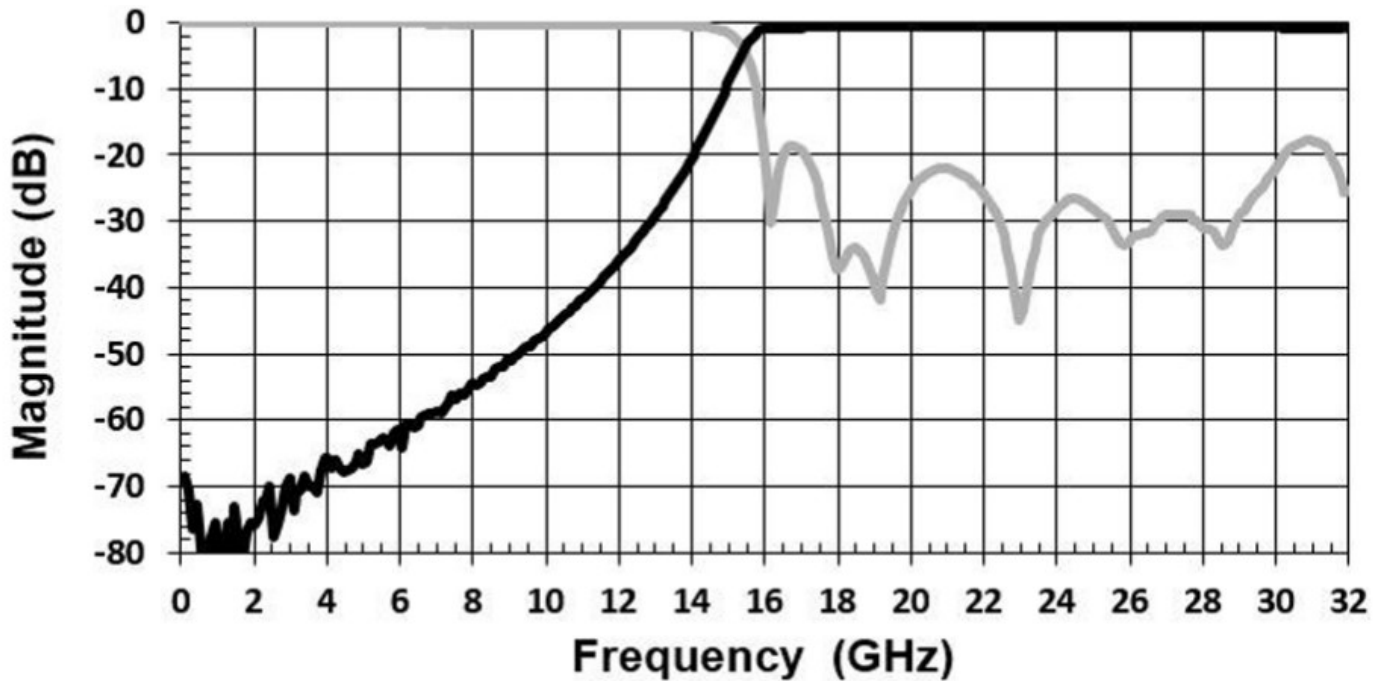
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Typical Measured Performance



*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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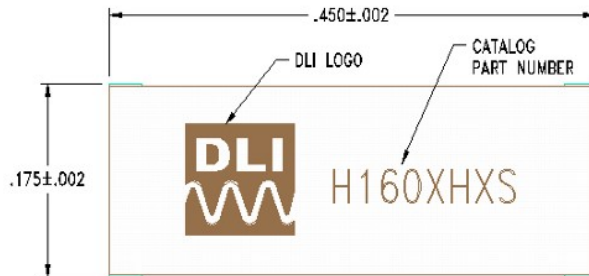
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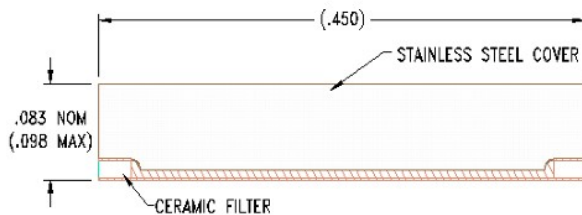
Physical Dimensions

Units = inches

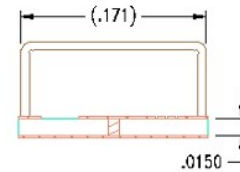
Top View



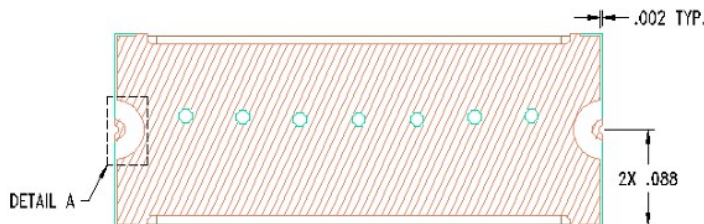
Side View



End View



Bottom View



Notes :

1. Mounting Surface Metallization:

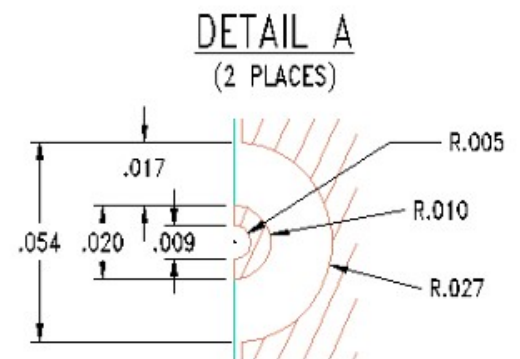
ENIG: 3 - 6 μinch Au over 50 μinch Ni

2. Maximum Assembly Process Temperature: 250°C

Tolerances:

For values with 3 decimal places ±0.001

For values with 4 decimal places ±0.0005



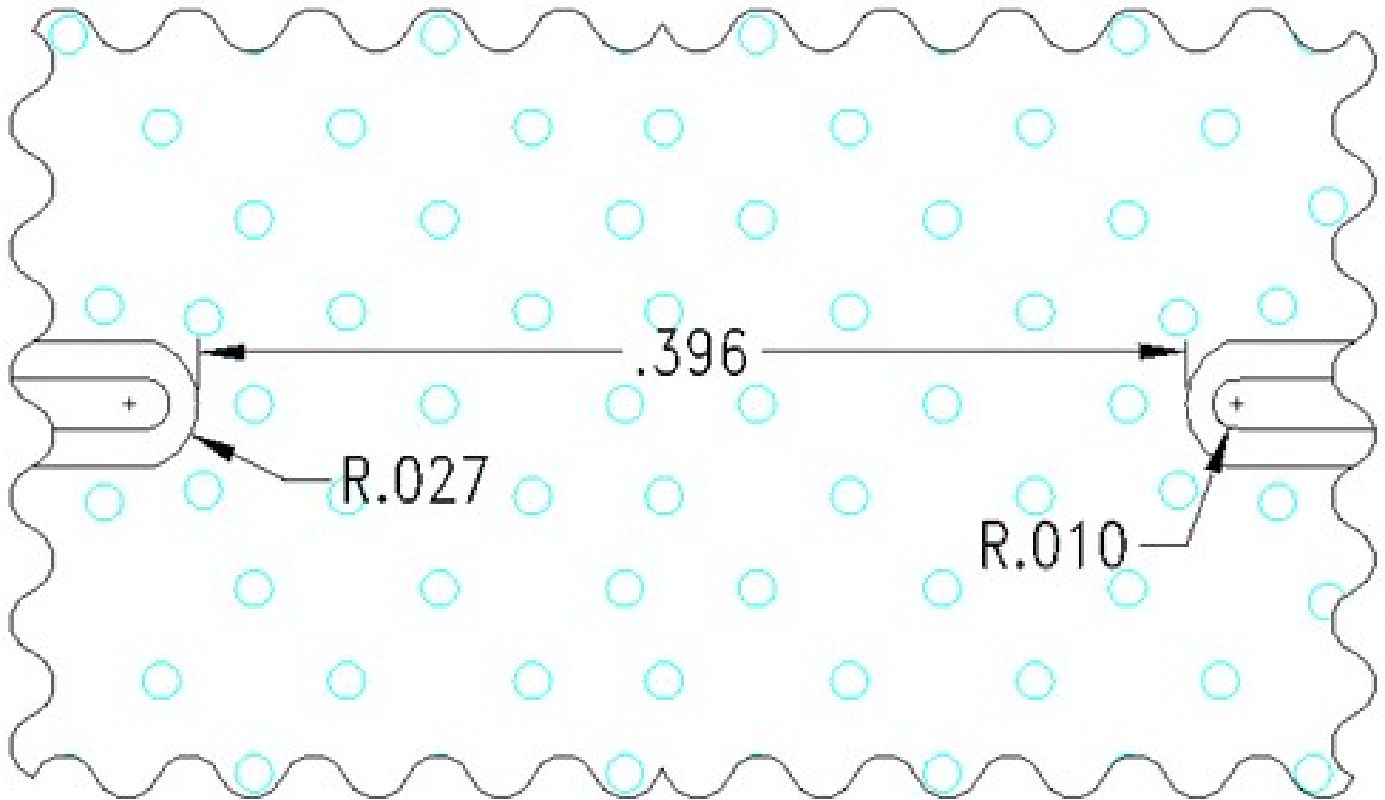
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Recommended PCB Layout



Note:

Unit = inches

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

For more information on how to mount this SMD part, refer to the SMD Guide, available in the Thin Film section of <https://www.knowlescapacitors.com/Support/Resources>

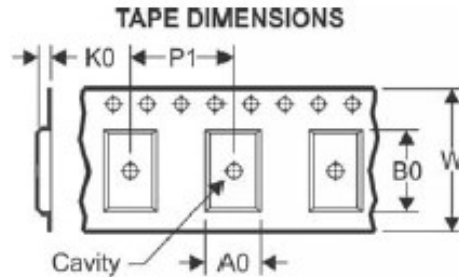
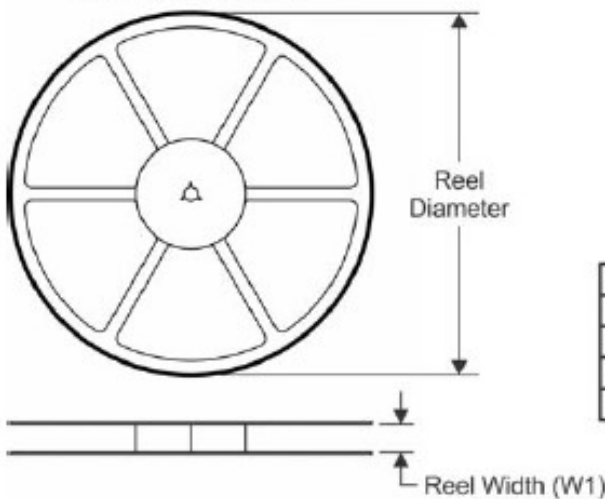
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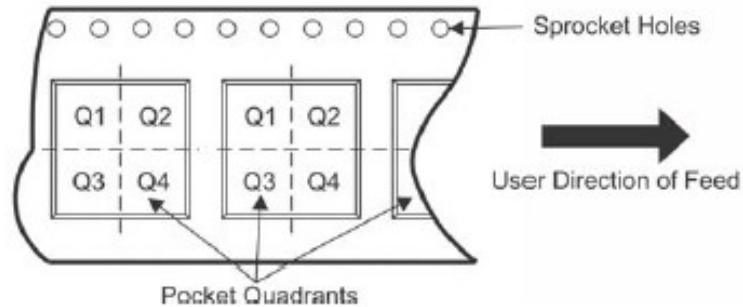
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TAPE AND REEL INFORMATION



| | |
|----|-----------------------------------------------------------|
| 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 |
|------------|--------------|--------------------|--------------------|---------|---------|---------|---------|--------|---------------|
| H160XHXS-T | SMD | 180 | 24.4 | 4.9 | 11.8 | 2.9 | 8 | 24 | Q1&2 |

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