

28.0GHz 5G Surface Mount Bandpass Filter B280MD1S

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DESCRIPTION

DLI brand surface mount catalog bandpass filters utilize DLI's low loss temperature stable materials which offer small size and minimal performance variation over temperature designed for the 5G band. 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

Packaging and Ordering Information:

To request tape and reel packaging, please order part number B280MD1S-T, see additional data on page 5.

SPECIFICATIONS*

Parameter	Frequency Range (GHz)	Min	Typ.	Max
Insertion Loss (dB)	26.5 - 29.5		2.0	3.0
Return Loss (dB)		12.0	18.0	
Low Side Rejection (dB)	DC - 24.7 24.7 - 25.5	20.0 10.0	25.0 13.0	
High Side Rejection (dB)	30.5 - 31.1 31.1 - 42.0	10.0 20.0	13.0 28.0	
CW Input Power** (W)				5
$\theta_{JC} \left(\frac{^{\circ}\text{C}}{\text{W}} \right)$	15			
Size (L x W x H)	0.158 x 0.091 x 0.071 in 4.01 x 2.31 x 1.80 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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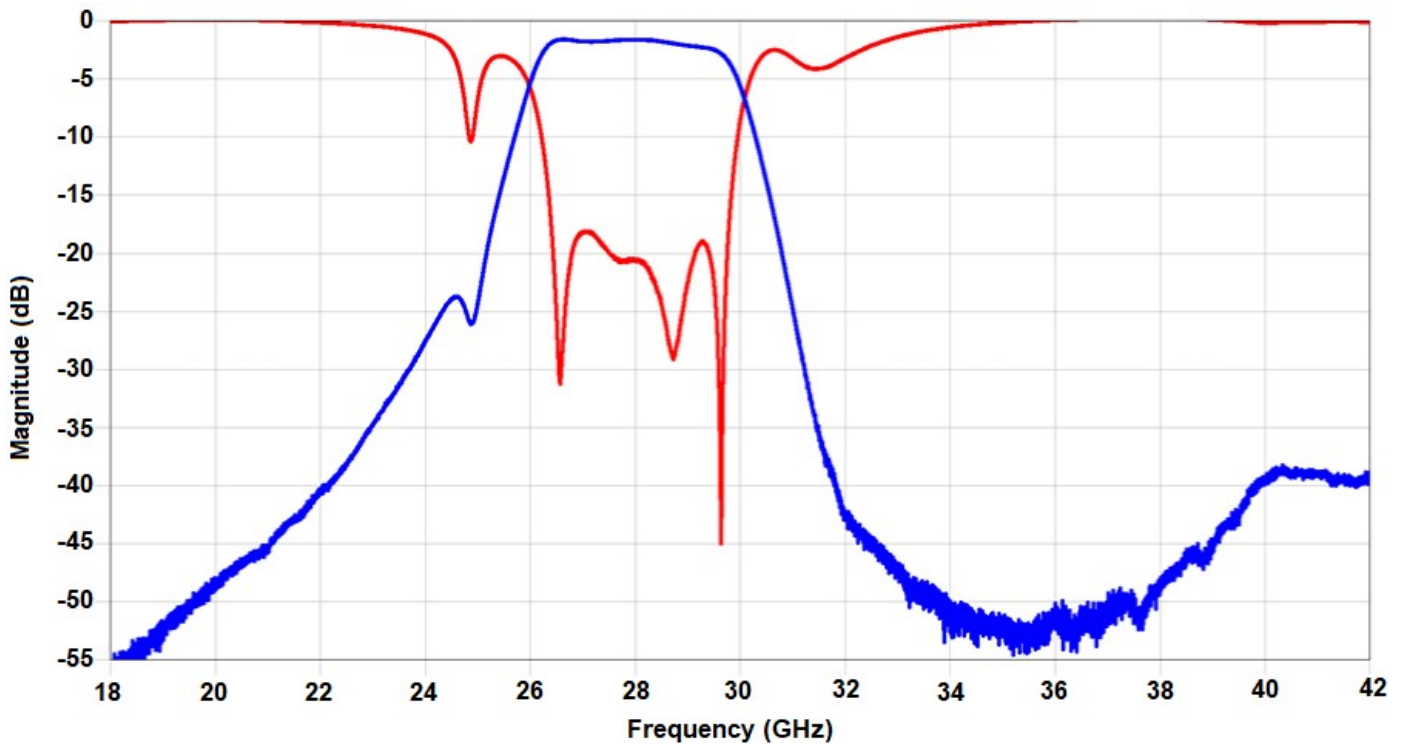
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Typical Measured Performance



*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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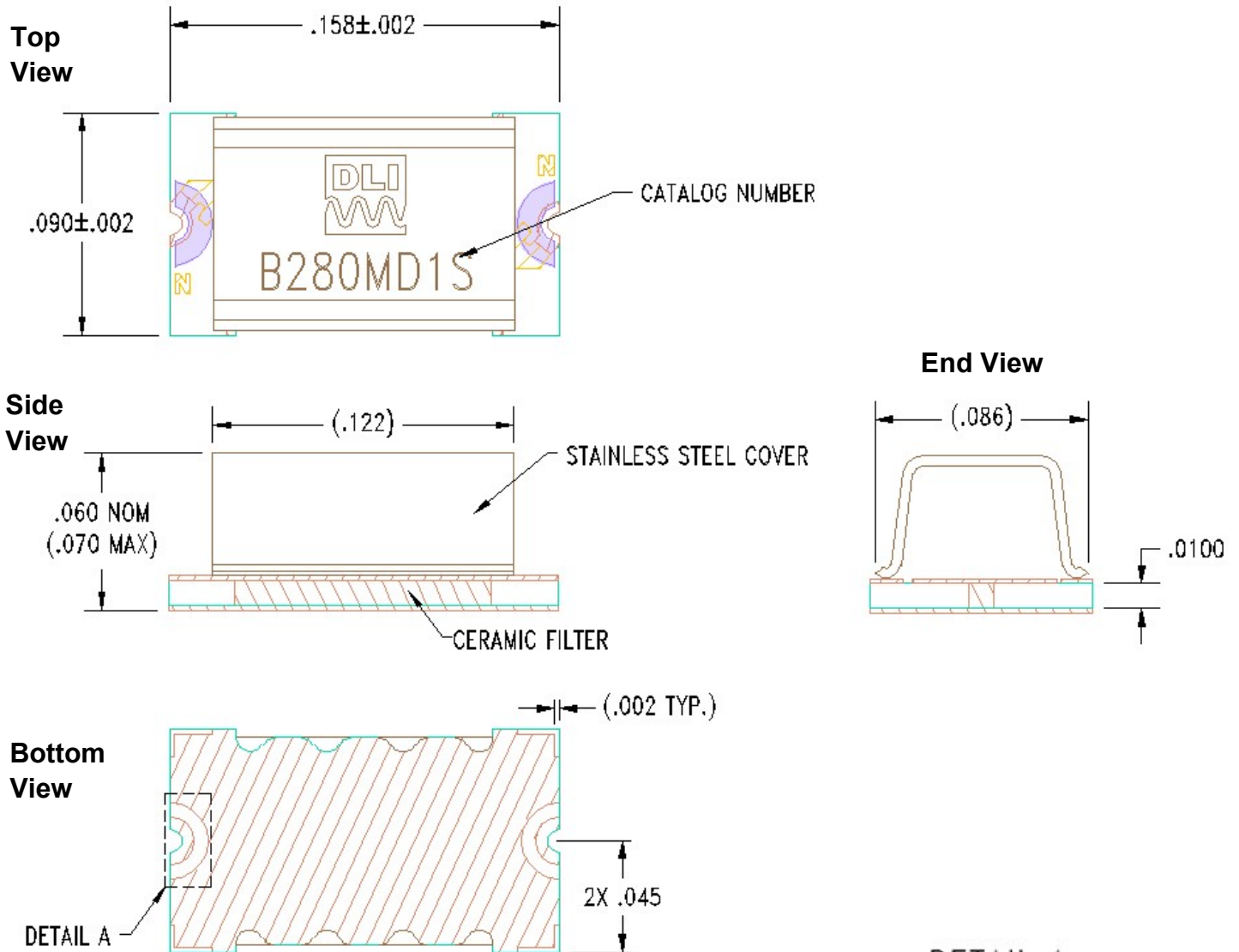
May 2024

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Physical Dimensions

Units = inches



Notes :

1. Termination Finish:

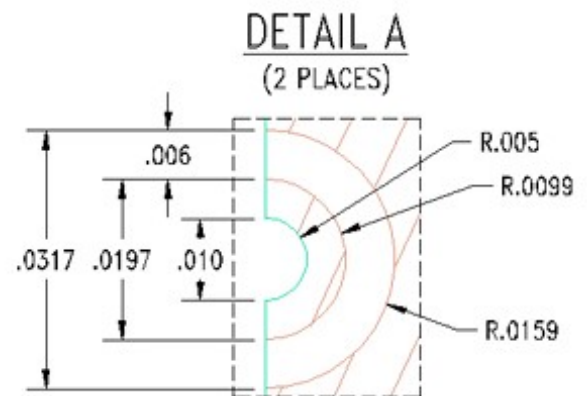
ENIG: 3 - 6 μ inch Au over 50 μ inch Ni

2. Maximum Assembly Process Temperature: 250°C

Tolerances:

For values with 3 decimal places ± 0.001

For values with 4 decimal places ± 0.0005



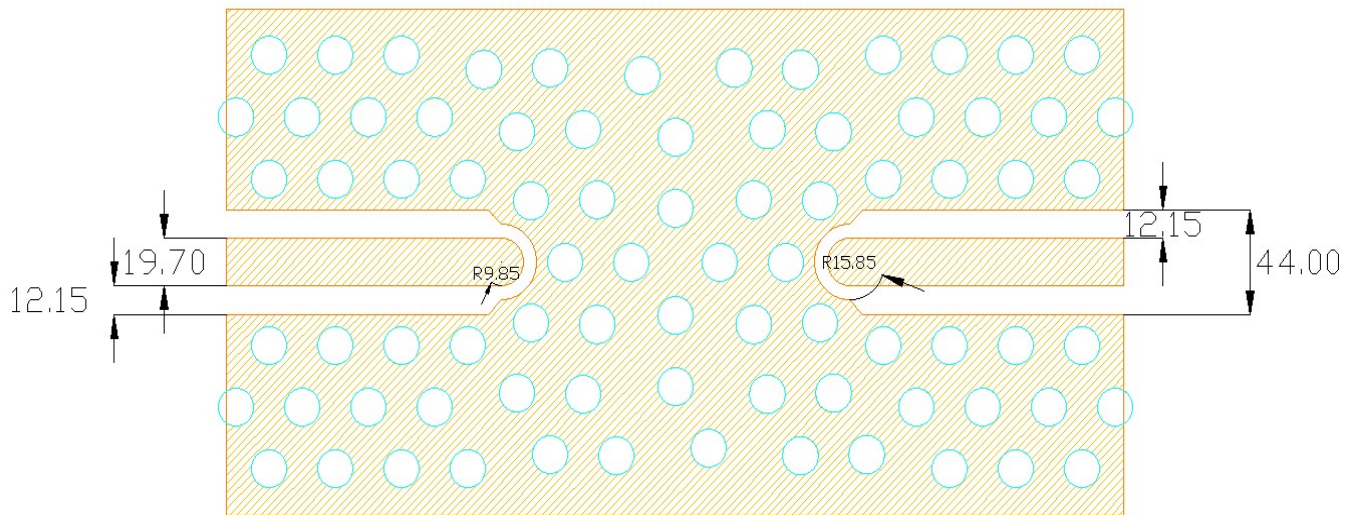
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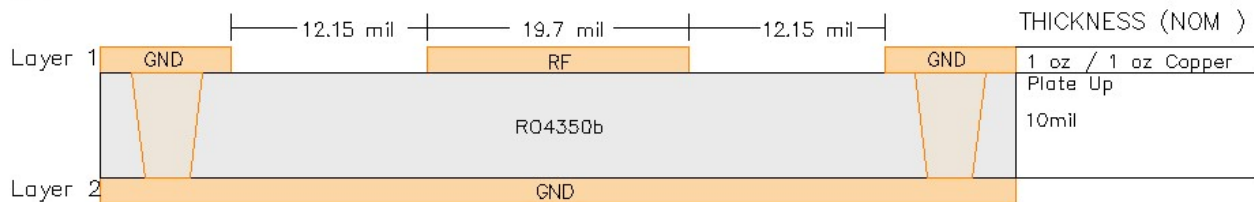
Recommended PCB Layout Unit = mil



PCB RECOMMENDED STACKUP

Filters are 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 : 19.7mil trace width,
gaps : 15mil



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

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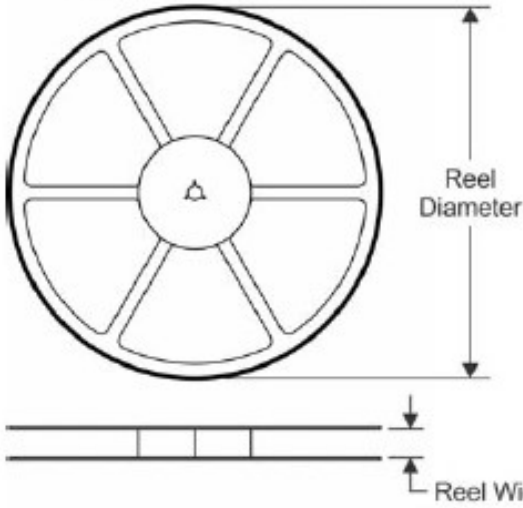
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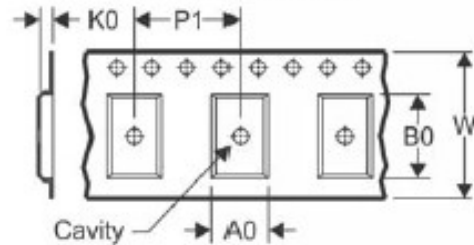
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TAPE AND REEL INFORMATION

REEL DIMENSIONS

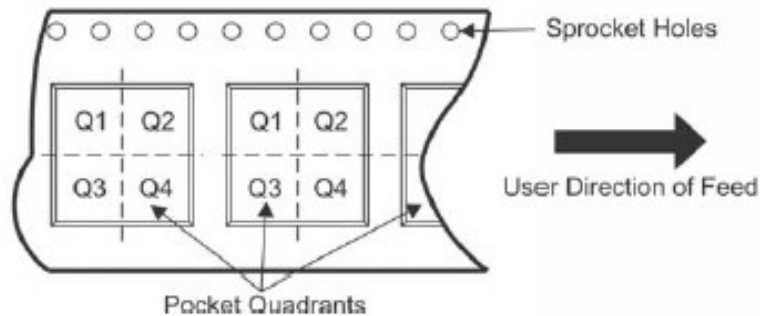


TAPE DIMENSIONS



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
B280MD1S-T	SMD	180	12.4	2.6	4.4	1.8	8	12	Q1&2

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