

14.5GHz Surface Mount Bandpass Filter B144MB1S

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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 B144MB1S-T, see additional data on page 5.



SPECIFICATIONS*

Parameter	Frequency Range (GHz)	Min	Typ.	Max
Insertion Loss (dB)	14.0 - 15.0		2.4	2.5
Return Loss (dB)		12.0	15.0	
Low Side Rejection (dB)	DC - 12.25	40.0	45.0	
High Side Rejection (dB)	16.25 - 22.0	40.0	45.0	
CW Input Power** (W)				5
$\theta_{JC} \left(\frac{^{\circ}\text{C}}{\text{W}} \right)$	15			
Size (L x W x H)	0.400 x 0.200 x 0.098 in 10.16 x 5.0 x 2.5 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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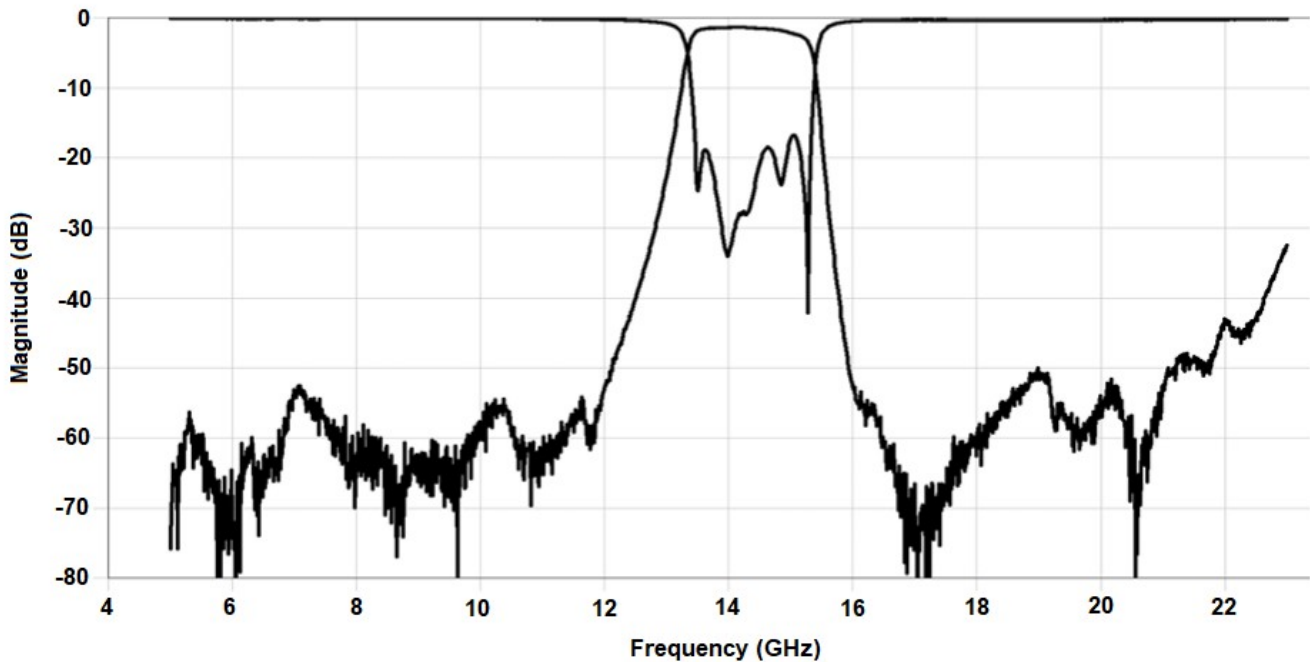
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Typical Measured Performance



*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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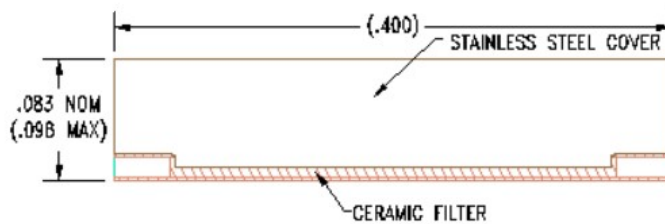
Physical Dimensions

Units = inches

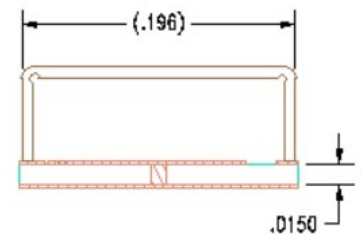
Top View



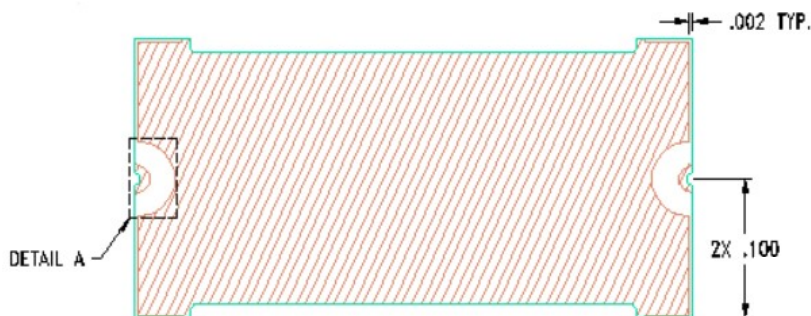
Side View



End View



Bottom View



Notes :

1. Termination Finish:

ENIG: 3 - 6 μinch Au over 50 μinch Ni

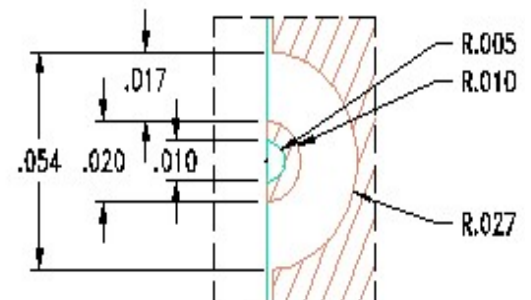
2. Maximum Assembly Process Temperature: 250°C

Tolerances:

For values with 3 decimal places ±0.001

For values with 4 decimal places ±0.0005

DETAIL A
(2 PLACES)



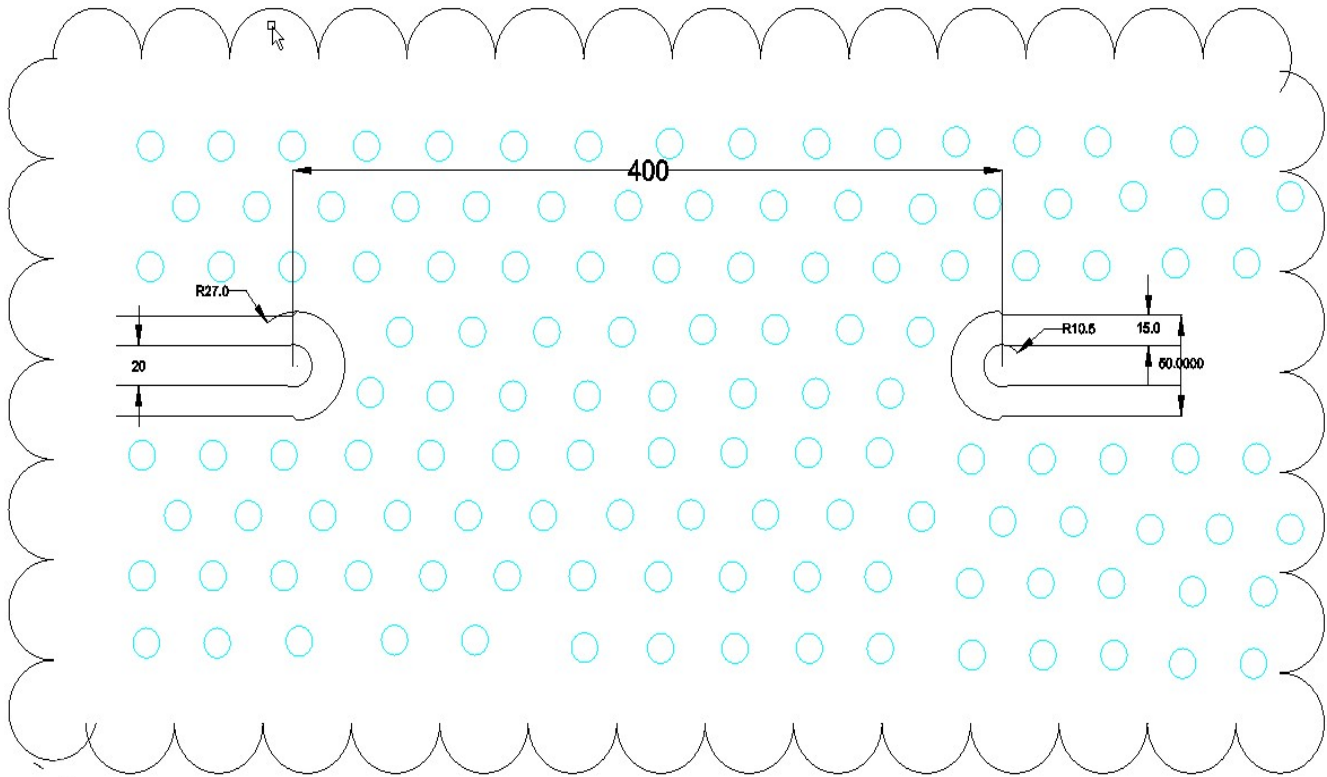
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Recommended PCB Layout



Note:

Unit = mils

- 50 Ω 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>

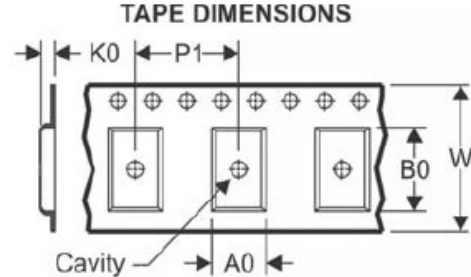
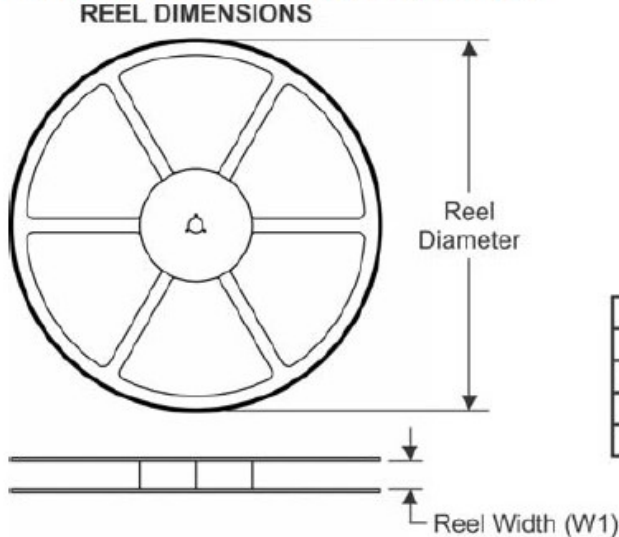
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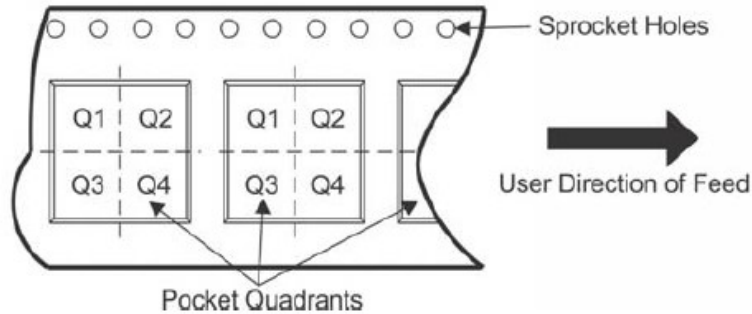
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TAPE AND REEL INFORMATION



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
B144MB1S-T	SMD	180	24.4	5.3	11.7	2.6	8	24	Q1&2

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