

5.0 GHz Surface Mount Lowpass Filter L050XF9S

DESCRIPTION

DLI's surface mount catalog low pass filters utilize DLI's high dielectric ceramic materials to provide small size and minimal performance variation over temperature. The catalog LPF's are offered with the same footprint in a variety of frequency bands to provide a drop in solution with highly repeatable performance.

FEATURES

- Small Size
- Fully Shielded Component
- Solder Surface Mountable
- 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 L050XF9S-T, see additional data on page 5.



SPECIFICATIONS*

Parameter	Frequency Range (GHz)	Min	Typ.	Max
Insertion Loss (dB)	DC - 4.8		1.0	2.5
Return Loss (dB)		15.0	20.0	
High Side Rejection (dB)	6.0 - 16.0	35.0	45.0	
CW Input Power** (W)	DC - 4.8			12.5
$\theta_{JC} \left(\frac{^{\circ}\text{C}}{\text{W}} \right)$	6.0			
Size (L x W x H)	0.220 x 0.180 x 0.118 in 5.59 x 4.57 x 3.00 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.

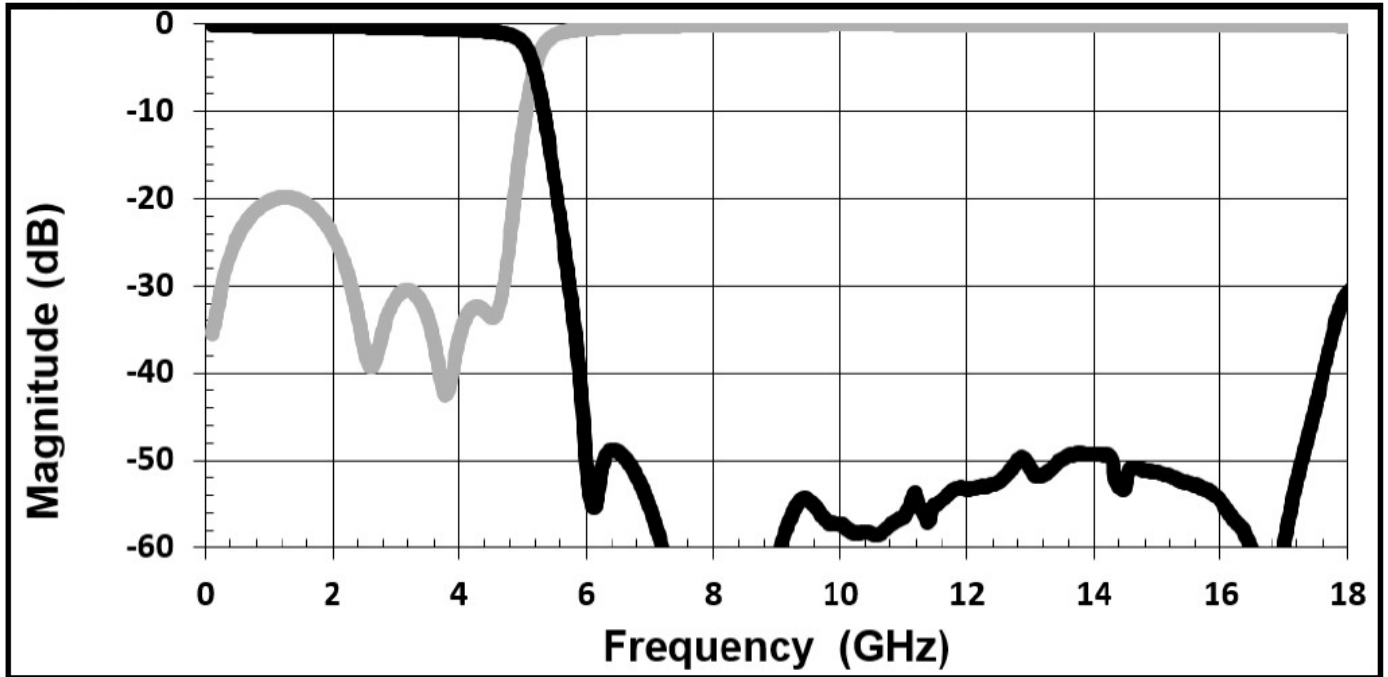
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Typical Measured Performance



*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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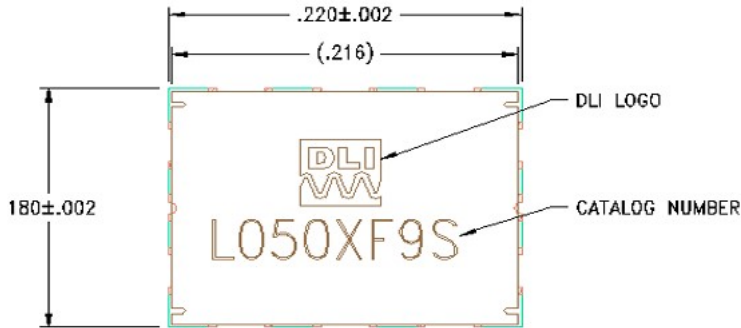
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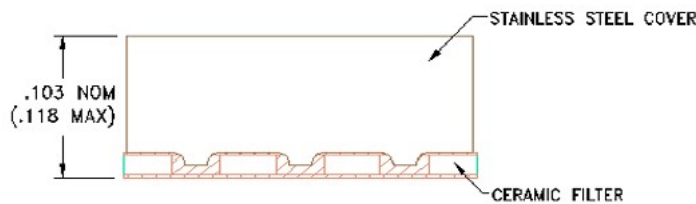
Physical Dimensions

Units = inches

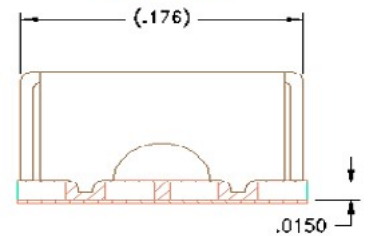
Top View



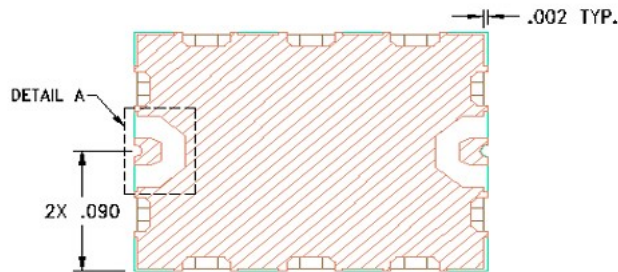
Side View



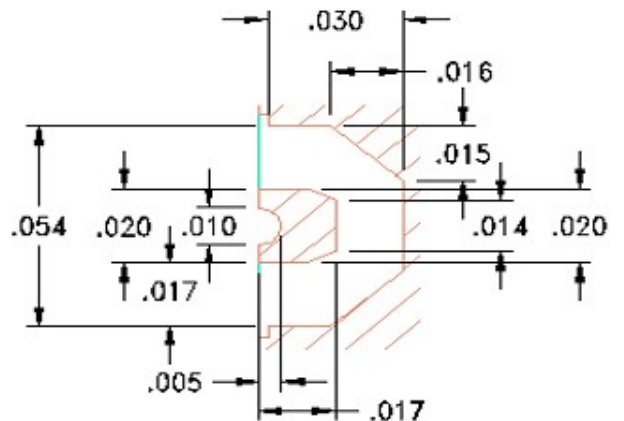
End View



Bottom View



DETAIL A
(2 PLACES)



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

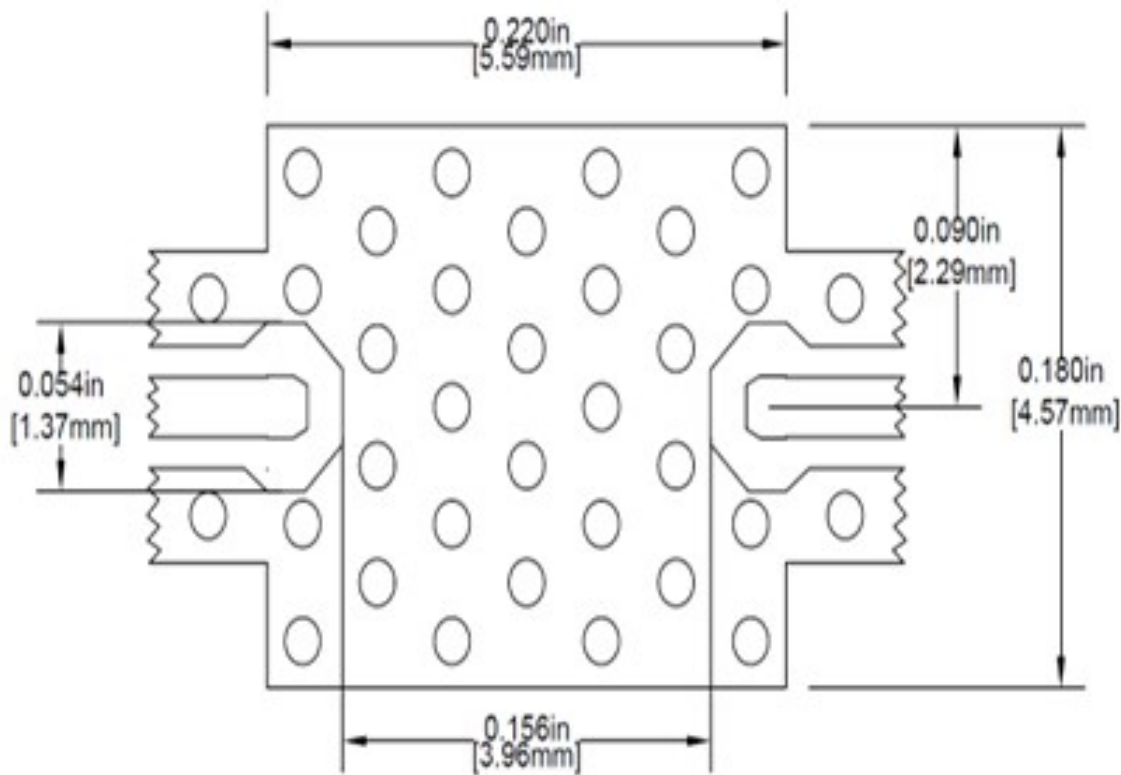
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Recommended PCB Layout



Note:

Unit = inches [mm]

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

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

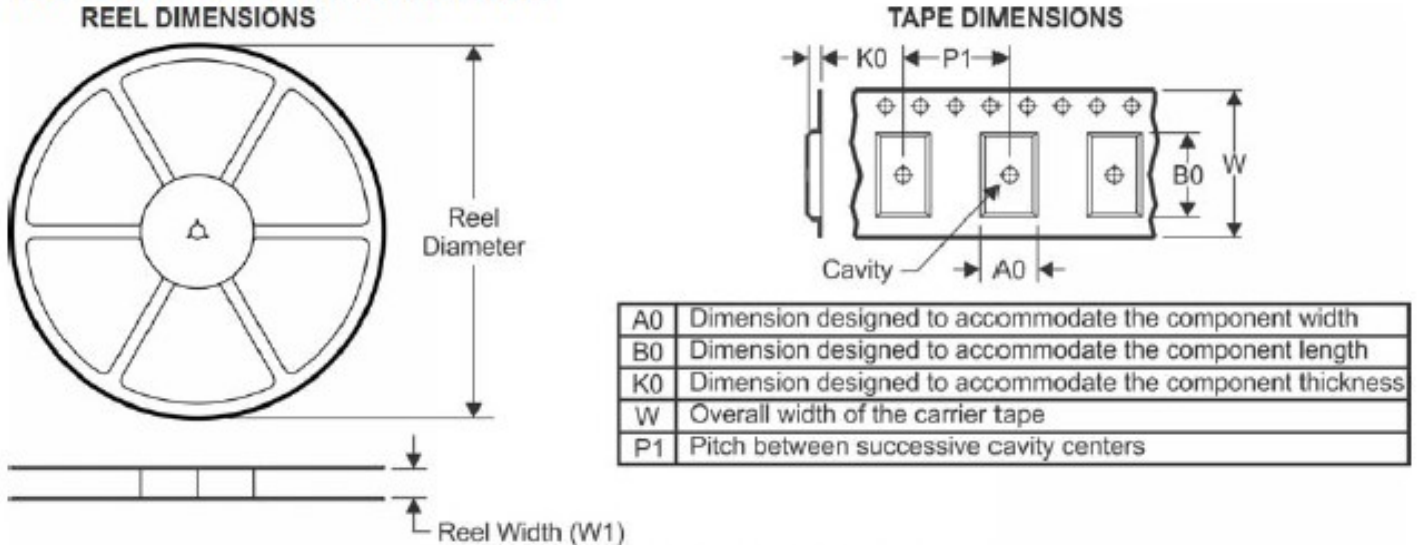
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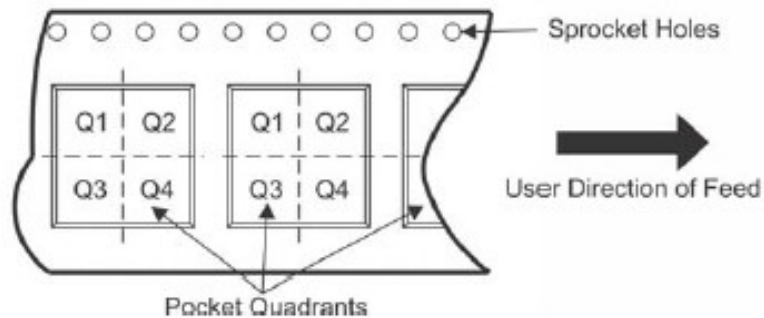
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TAPE AND REEL INFORMATION



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
L050XF9S-T	SMD	180	16.4	4.8	5.9	3.2	8	16	Q1&2

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