

**DC-40GHz RF Crossover**  
**DDL10519 Datasheet**

**DESCRIPTION**

DLI's new patented high frequency RF crossover component has market leading frequency range coverage from DC to 40GHz. This component utilizes a grooved metalized ceramic channel which enables this product to crossover top layer RF or DC lines with adequate isolation.

**FEATURES**

- Metalized Channel
- Solder Surface Mount Package
- Excellent Repeatability
- Moisture Sensitivity Level: MSL1
- 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 DDL10519-T



**SPECIFICATIONS\***

Parameter	Frequency Range (GHz)	Min	Typ.	Max
Insertion Loss (dB)	DC - 40		0.5	1.2
Return Loss (dB)		10	15	
Isolation (dB)		30	35	
Max CW Input Power** (W)				50
Size (L x W x H)	0.150 x 0.100 x 0.020 in 3.81 x 2.54 x 0.51 mm			

\*Electrical specifications based on typical mounted 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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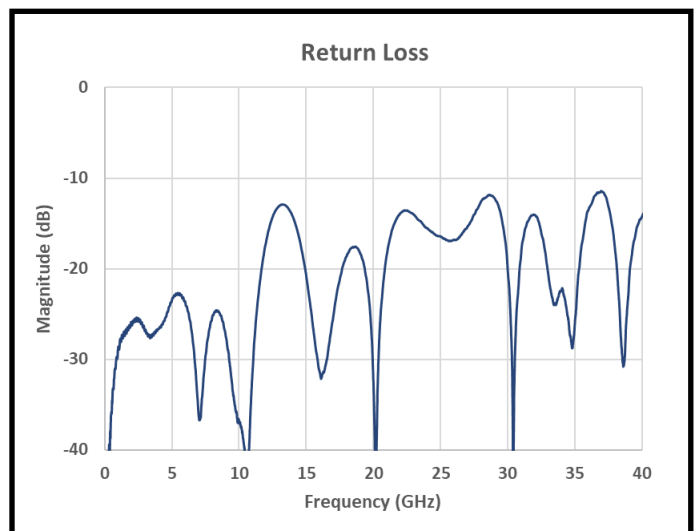
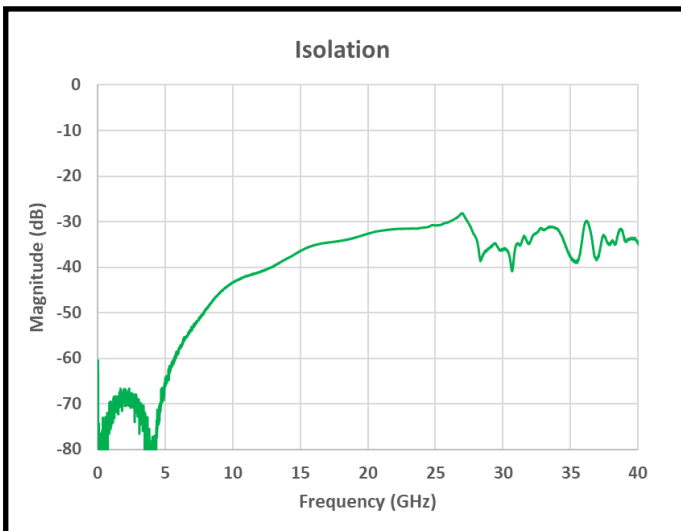
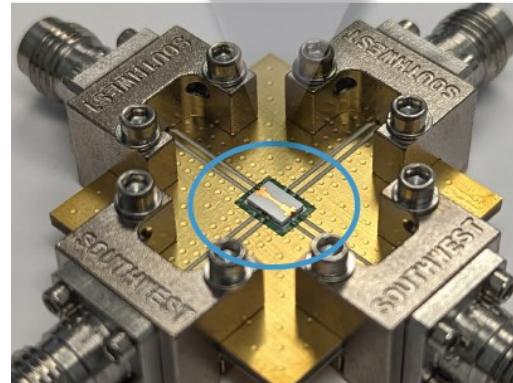
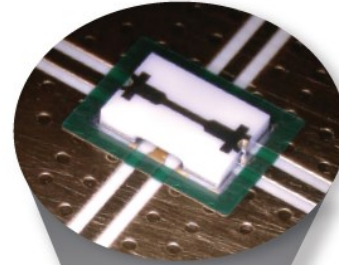
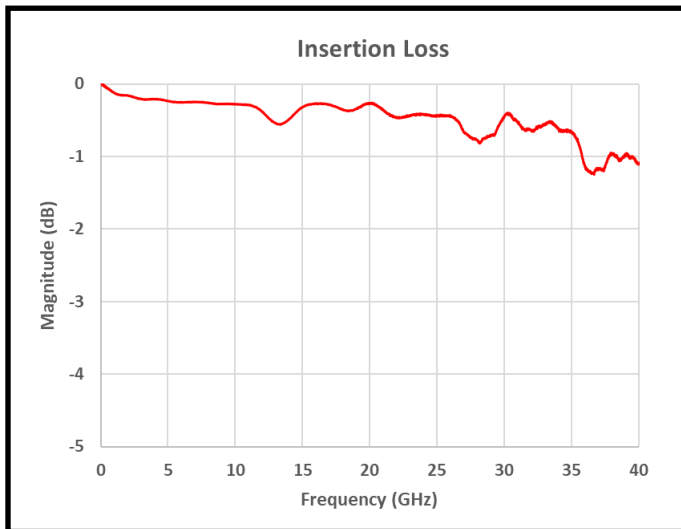
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**Typical Measured Performance**



\*Typical de-embedded measured performance mounted on a connectorized test fixture. DEB is 0.010 in. RO4350B with 50.0Ohm CPW ground traces going into the ports at room temperature.

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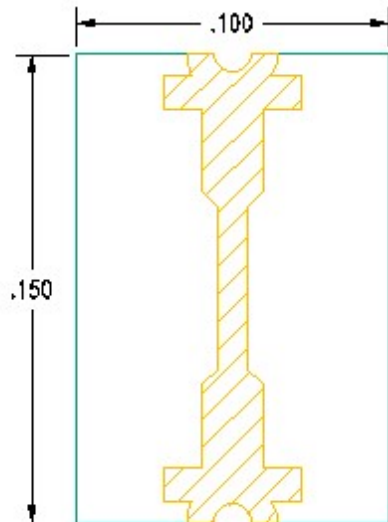
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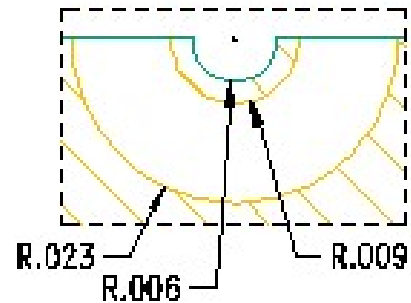
**Physical Dimensions**

Units = Inches

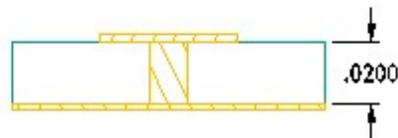
**Top View**



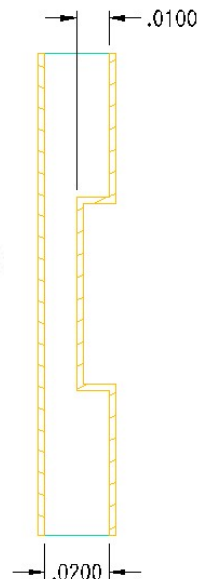
**DETAIL A**  
(2 PLACES)



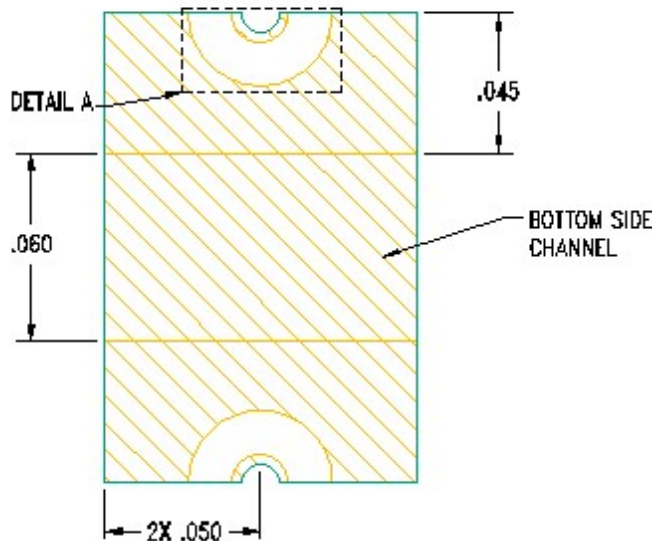
**Side View**



**Side View**



**Bottom View**



**Notes :**

1. Termination Finish:

ENIG: 3 - 6  $\mu$ inch Au over 50  $\mu$ inch Ni

2. Maximum Assembly Process Temperature: 250°C

**Tolerances:**

For values with 3 decimal places  $\pm 0.001$

For values with 4 decimal places  $\pm 0.0005$

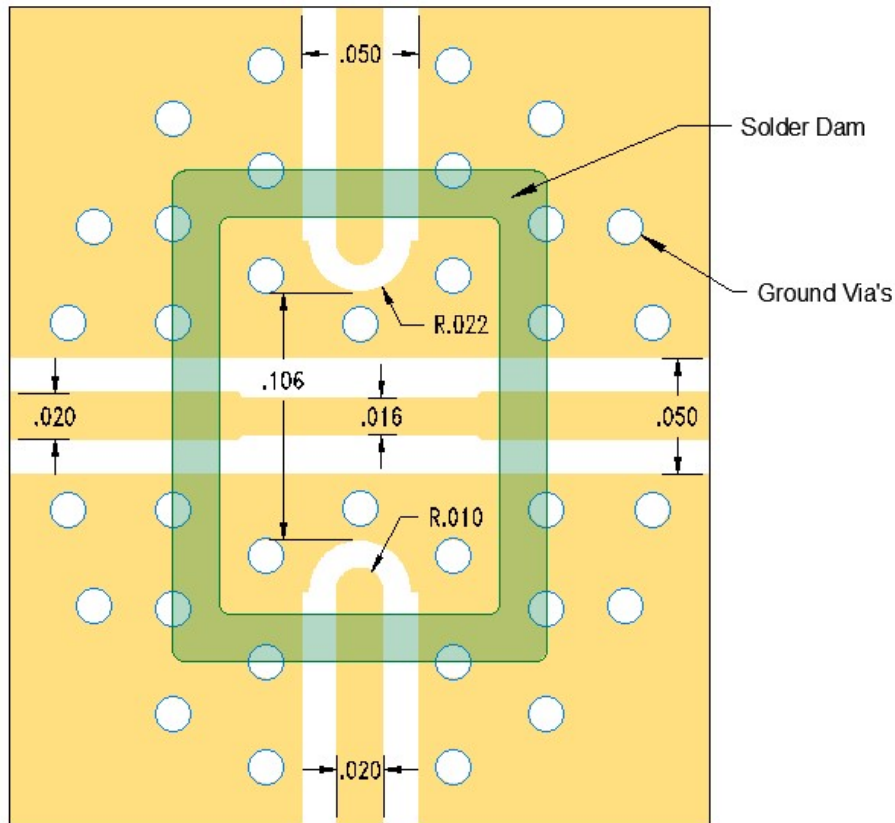
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**Recommended PCB Layout**



**Note :**

Parameters of the Recommended PCB:

Units = Inches

- 0.010 inch Rogers Board RO4350B
- 3.66 dK, Board Material design
- Dimensions of 50.0 Ohm CPWG :
  - . 0.020 inch RF trace width
  - . 0.015 inch spacing

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

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