

## 6-18GHz 3-way Power Divider PDW11597

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### DESCRIPTION

DLI's 6 –18 GHz 3-way power divider / combiner offers unmatched size and performance in a surface mount configuration. This power divider utilizes DLI's low loss temperature stable materials which offer small size and minimal performance variation over temperature.

### FEATURES

- Small Size
- Frequency Stable over Temperature
- 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 PDW11597-T

### SPECIFICATIONS\*

Parameter	Frequency Range (GHz)	Min	Typ.	Max	
Nominal Power Splitting (dB)	6 - 18		5.5	6.0	
Nominal Phase Shift (Deg)			0.0		
Return Loss (dB)		10	14		
Amplitude Balance (dB)					± 0.75
Phase Balance (Deg)				± 3.0	
Isolation (dB)		15	20		
Max CW Input Power** as Divider (W)					6
Max CW Input Power** as Combiner (W)					1.8 ***
Size (L x W x H)		0.275 x 0.150 x 0.020 in. 6.99 x 3.81 x 0.508 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 via's as outlined in the recommended PCB layout that are connected to an adequate heat sink. Max power is based on 85°C base temperature.

\*\*\*Power rating as a combiner assumes that the incoming signals are of equal amplitude and phase.



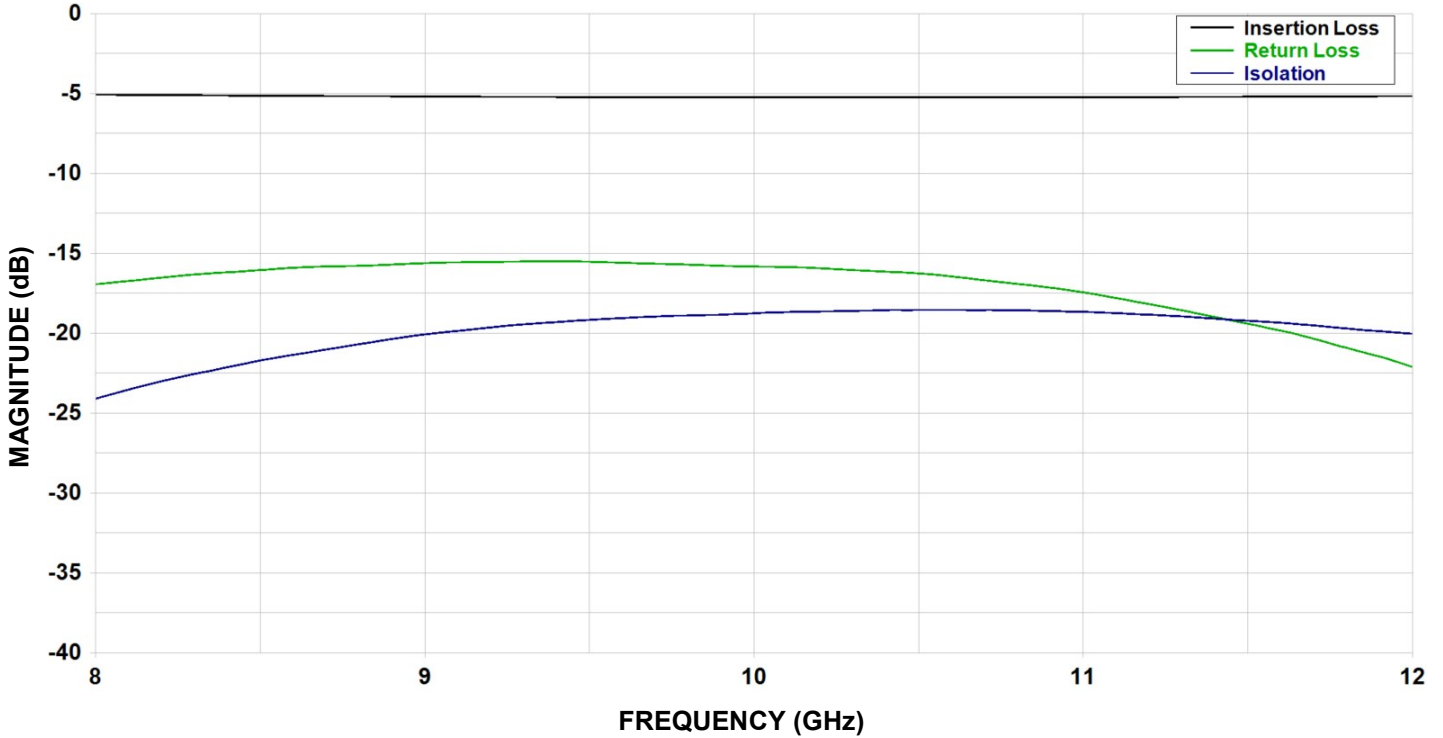
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**Typical Measured Performance**



\*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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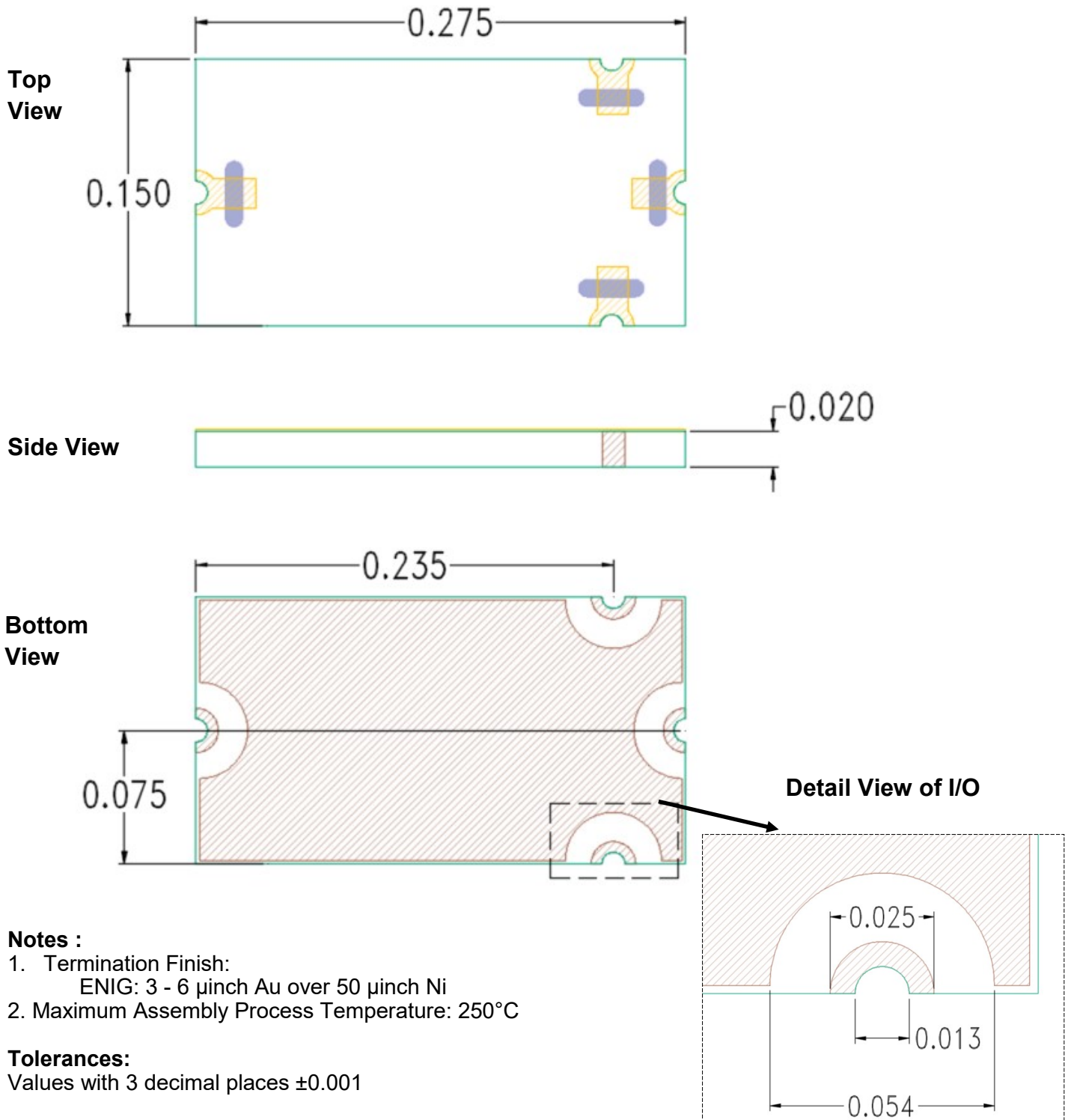
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**Physical Dimensions**

Units = Inches



**Notes :**

- Termination Finish:  
ENIG: 3 - 6 μinch Au over 50 μinch Ni
- Maximum Assembly Process Temperature: 250°C

**Tolerances:**

Values with 3 decimal places ±0.001

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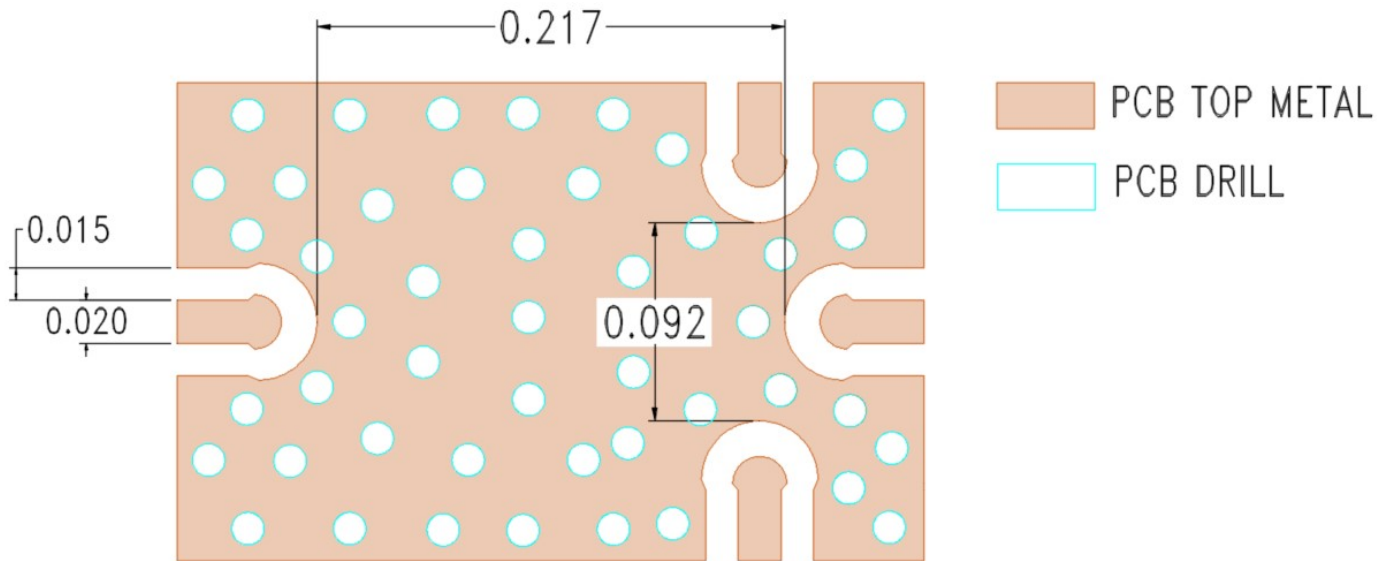
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**Recommended PCB Layout**

Units = Inches

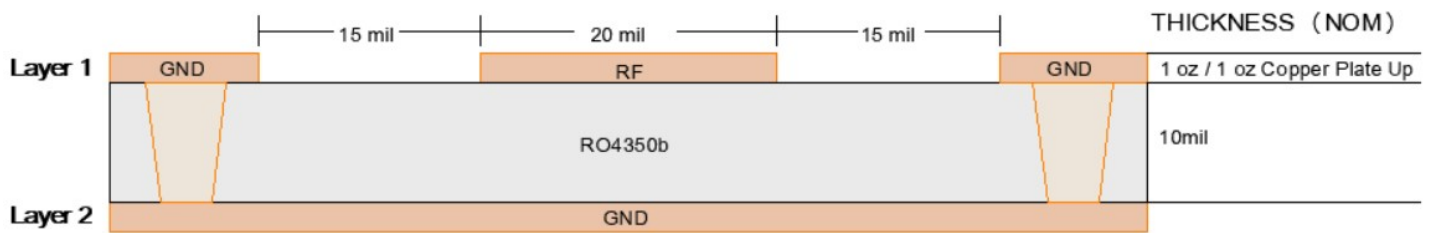


**PCB RECOMMENDED STACKUP**

Filter is 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 : 20mil trace width, 15mil gaps



**Note :**

- 50Ω 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.knowledscapacitors.com/Support/Catalogs>

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