

2 to 18 GHz 10dB Directional Coupler

FPC07234

www.knowlescapacitors.com

DESCRIPTION

DLI brand directional couplers utilize DLI's high dielectric ceramic materials to deliver small size and minimal performance variation over temperature. The components are well matched for monitoring incident and reflected power.

FEATURES

- Small Size
- Frequency Stable over Temperature
- Solder Surface Mountable
- Moisture Sensitivity Level: MSL1
- Excellent Repeatability
- 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 FPC07234-T



SPECIFICATIONS*

Parameter	Frequency (GHz)	Min	Max
Passband Insertion Loss* Excess (dB)	2 - 18		1.2
Passband Return Loss (dB)		10	
Coupling (dB)		10	+/- 1.5
Directivity (dB)		10	
CW Input Power** (W)			
$\theta_{JC} \left(\frac{^{\circ}\text{C}}{\text{W}} \right)$	7.5		
Size (L x W x H)	0.500 x 0.150 x 0.030 in 12.7 x 3.81 x 0.76 mm		

*Electrical specifications based on typical mounted performance at room temperature. Insertion loss shall vary ± 0.5 dB over temperature.

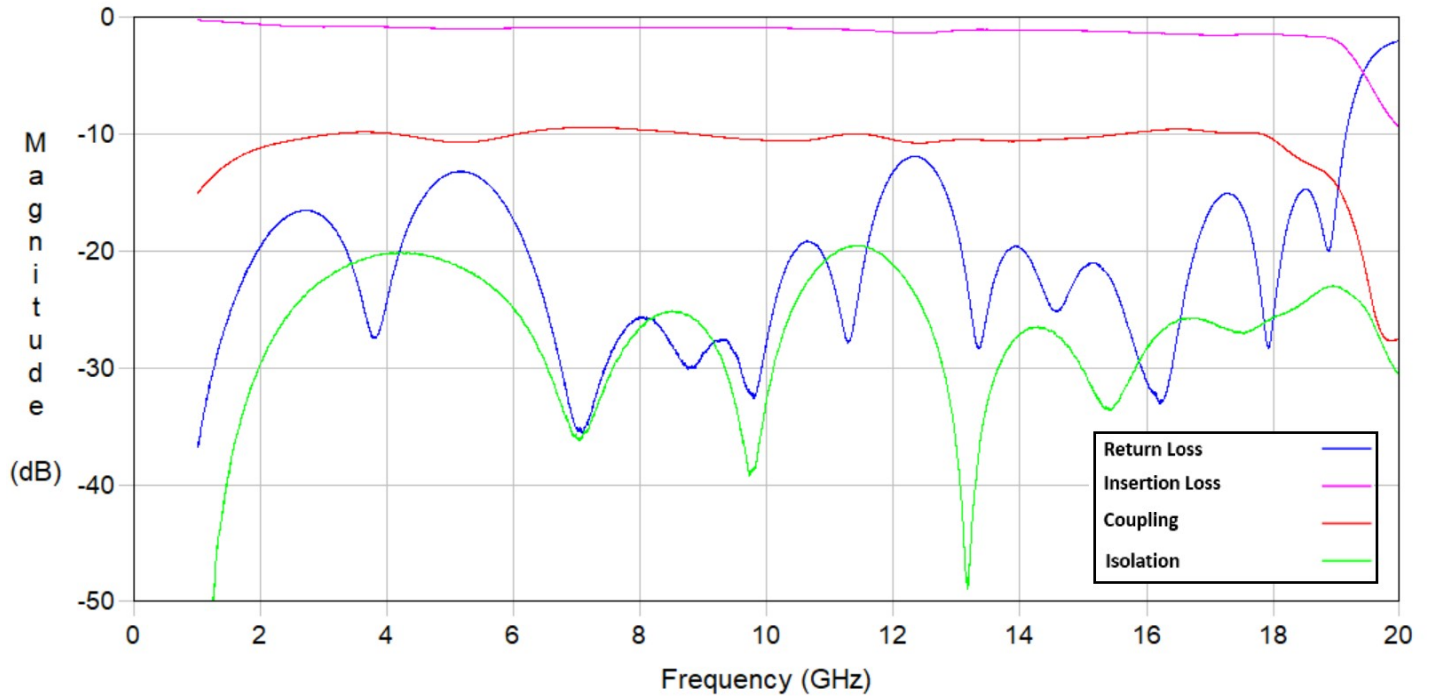
** Power rating assumes the component will be mounted to a PCB with good thermally conducting ground vias as outlined in the recommended PCB layout that are connected to an adequate heat sink. Max power is based on 85°C base temperature.

Information in this document is for informational and guideline purposes only. All information regarding the Product described in this datasheet is subject to change from time to time at Knowles Precision Devices' sole discretion. It is the customer's sole responsibility to evaluate the suitability of the Product in the customer's particular application. Knowles Precision Devices assumes no responsibility or liability for the use of the information contained within.

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Typical Measured Performance*



*Typical de-embedded measured performance mounted on a connectorized test fixture. DEB is 0.010in RO4350B with 50.00ohm CPW ground traces going into the ports at room temperature.

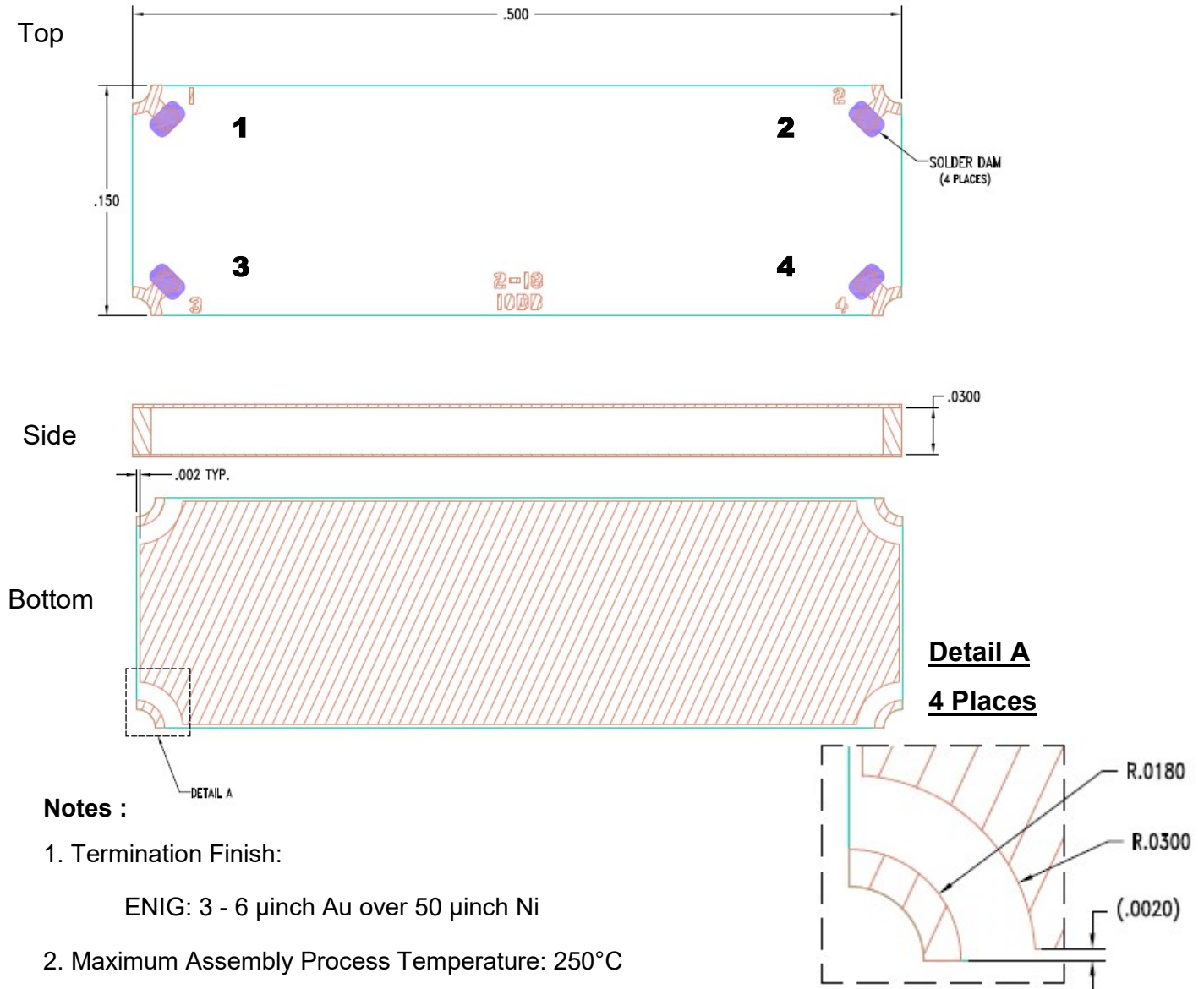
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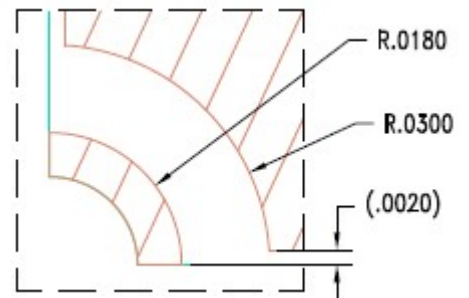
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Physical Dimensions

Units = Inches [mm]



Detail A
4 Places



Tolerances:

For values with 3 decimal places:

± 0.001

For values with 4 decimal places:

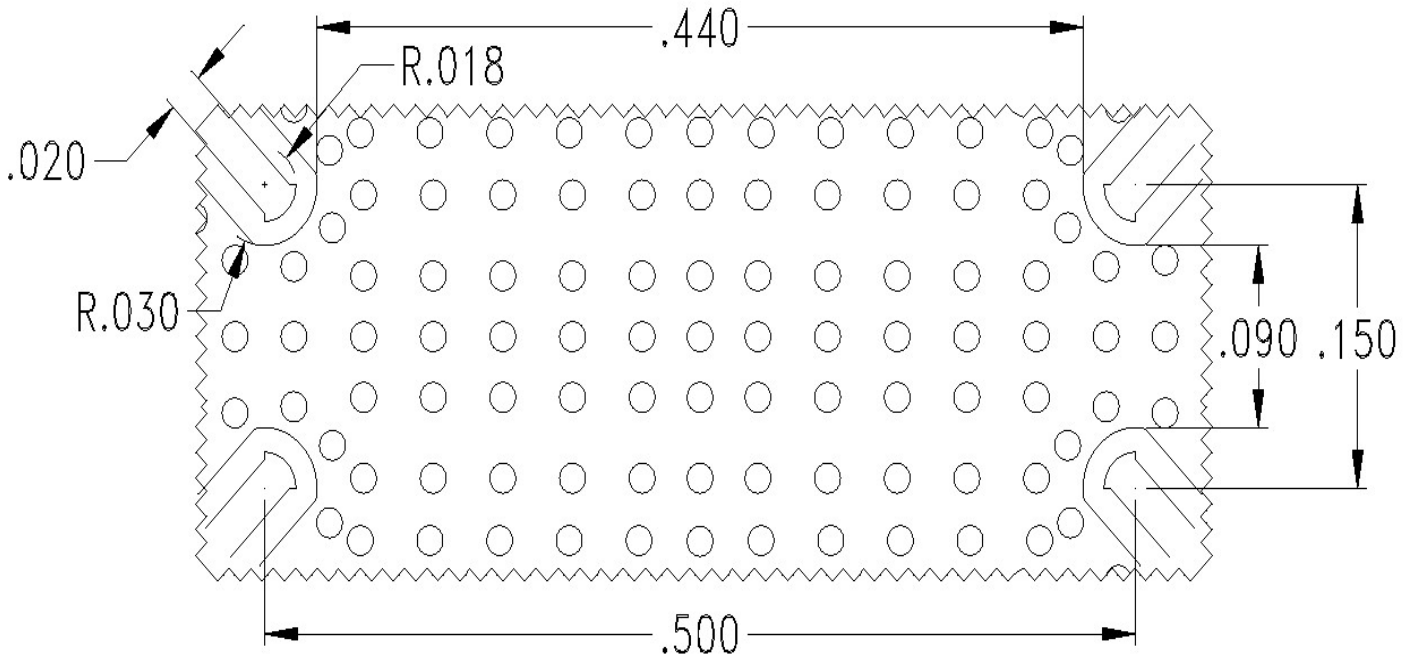
± 0.0005

FPC07234 Coupler Port Configuration				
	Port 1	Port 2	Port 3	Port 4
Configuration 1	Input	Output	Coupled	Isolated
Configuration 2	Output	Input	Isolated	Coupled
Configuration 3	Coupled	Isolated	Input	Output
Configuration 4	Isolated	Coupled	Output	Input

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Recommended PCB Layout



Note:

- 50Ω trace dimensions are application specific.
- Ensure adequate grounding beneath the part.
- Trace feed locations can be horizontal, vertical, or angled.

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

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