

6 to 18GHz 20dB Asymmetric Coupler FPC06913

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DESCRIPTION

DLI's high frequency wide band surface mount directional couplers utilize DLI's high dielectric ceramic materials which provide small size and minimal performance variation over temperature.

FEATURES

- Small Size
- Solder Surface Mount Package
- Moisture Sensitivity Level: MSL1
- Frequency Stable over Temperature
- Operating & Storage Temp: -55°C to +125°C
- Characteristic Impedance: 50Ω
- For reference, wirebond version is FPC07337

Packaging and Ordering Information:

To request Tape and Reel packaging, please order part number FPC06913-T, see additional data on page 5.



SPECIFICATIONS*

Parameter	Frequency (GHz)	Min	Typ.	Max
Passband Insertion Loss* (dB)	6-18			1
Passband Return Loss (dB)		15		
Coupling (dB)		20		21.5
Directivity (dB)			10	
CW Input Power** (W)				10
$\theta_{JC} \left(\frac{^{\circ}\text{C}}{\text{W}} \right)$	7.5			
Size (L x W x H)	0.180 x 0.110 x 0.015 in 4.57 x 2.79 x 0.38 mm			

*Electrical specifications based on typical mounted 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 via's 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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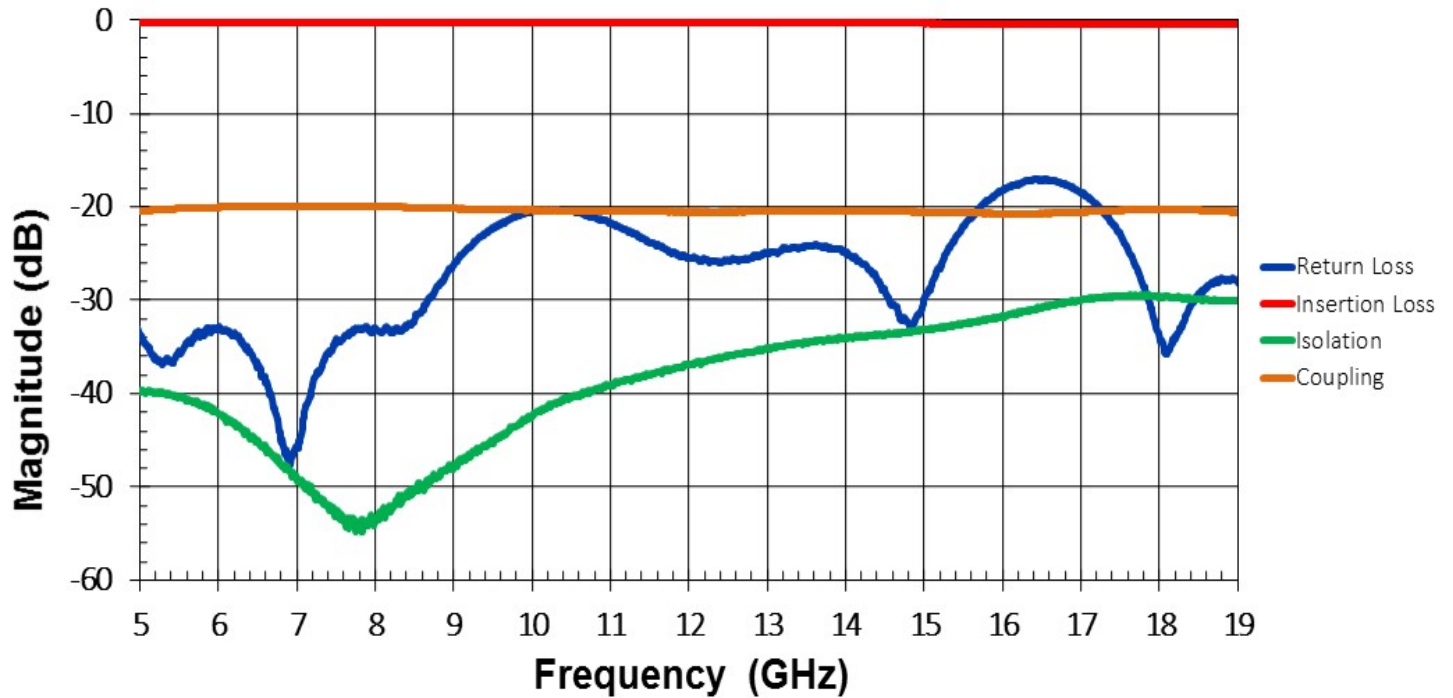
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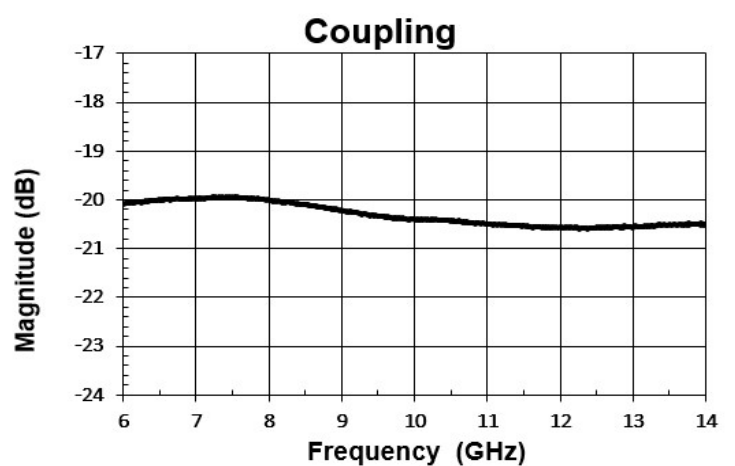
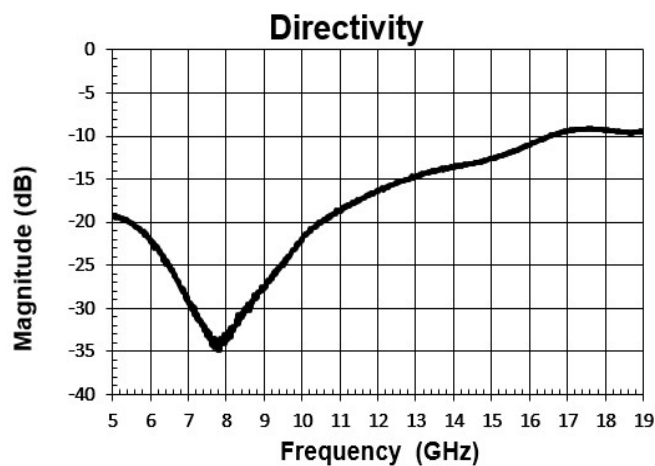
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Typical Measured Performance



*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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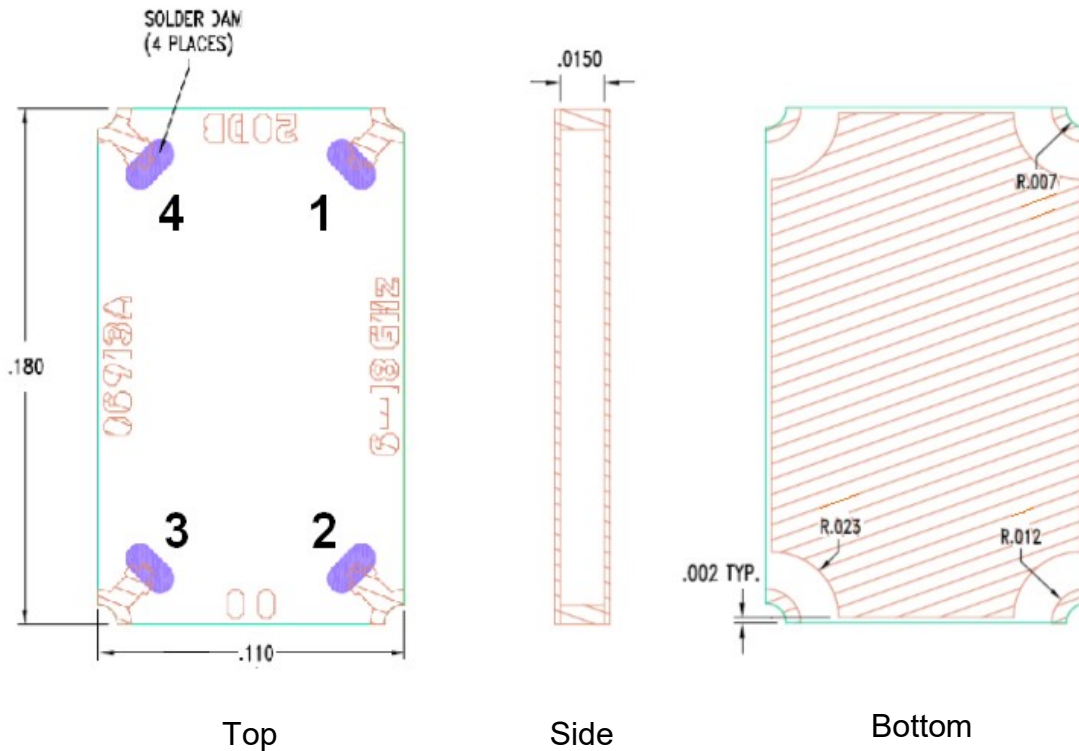
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Physical Dimensions

Units = inches



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

FPC06913 Coupler Port Configuration				
	Port 1	Port 2	Port 3	Port 4
Configuration 1	Input	Output	Isolated	Coupled
Configuration 2	Output	Input	Coupled	Isolated
Configuration 3	Coupled	Isolated	Output	Input
Configuration 4	Isolated	Coupled	Input	Output

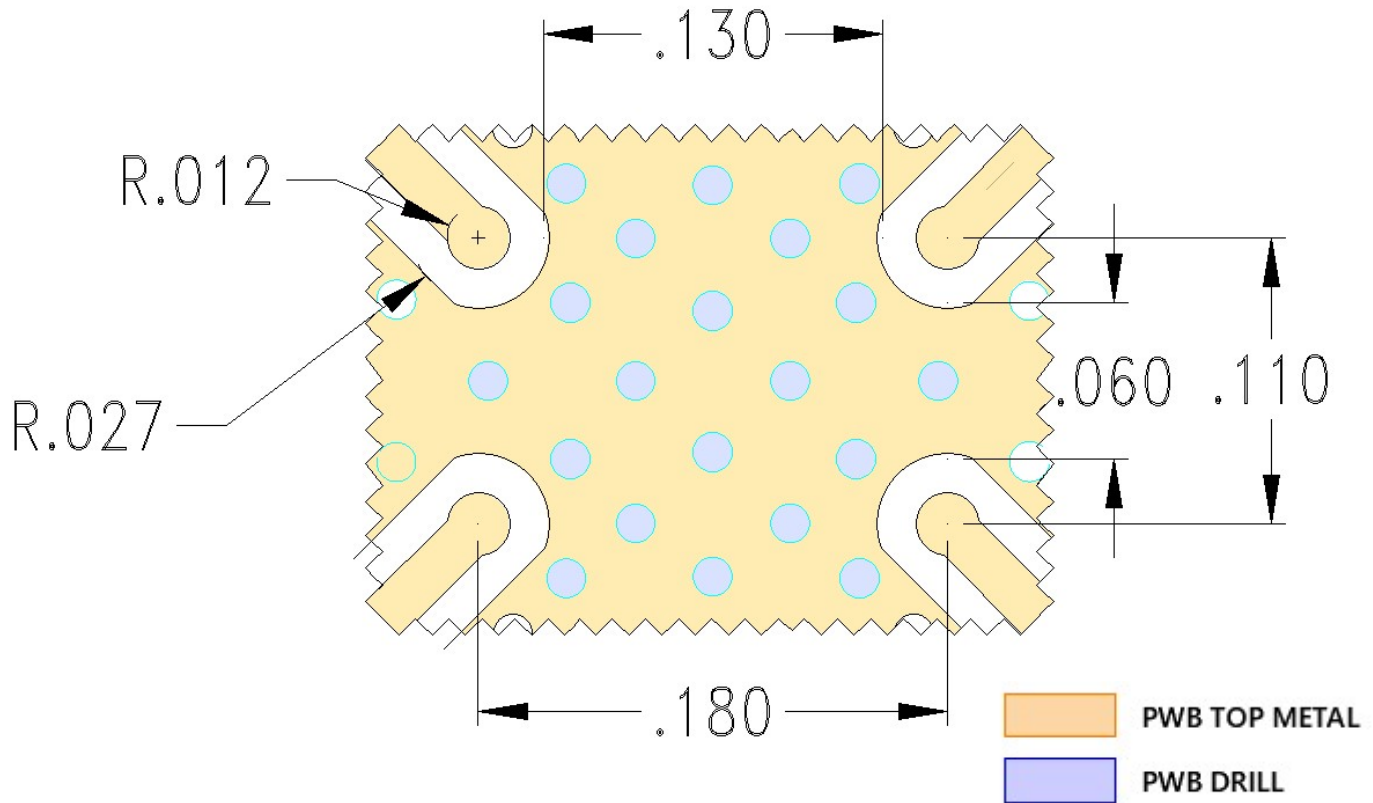
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Recommended PCB Layout (unit inch)



Note:

- 50Ω trace dimensions are application specific.
- 50Ω trace dimensions are designed for 10mil thick R04350B Rogers Board
- 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>

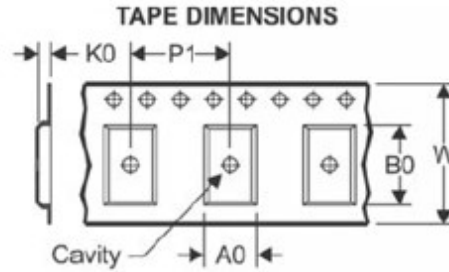
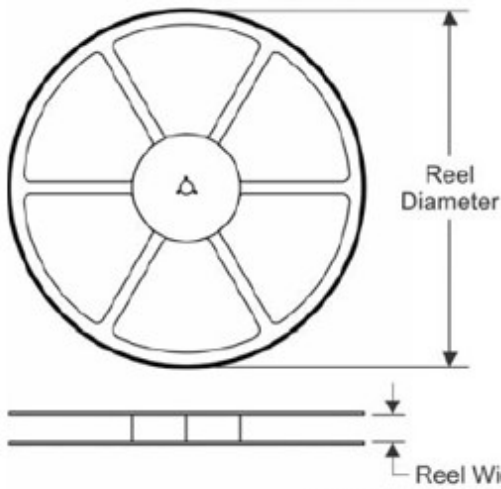
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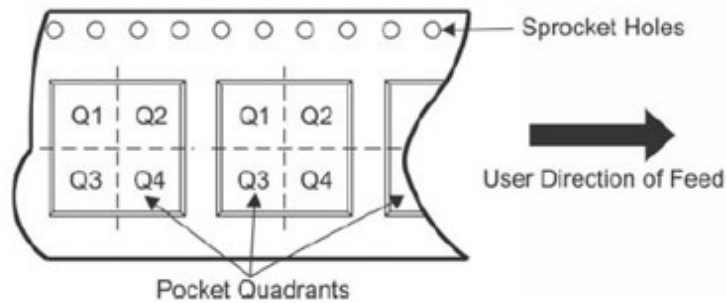
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TAPE AND REEL INFORMATION



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
FPC06913-T	SMD	180	12.4	3.1	4.9	0.7	8	12	Q2

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