

8 to 12GHz 20dB Directional Coupler

FPC06153

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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
- Wirebond connections
- 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 FPC06153-T, see additional data on page 4.



SPECIFICATIONS*

| Parameter | Frequency Range (GHz) | Min | Max |
|--|---|-----|-----|
| Passband Insertion Loss* (dB) | 8 - 12 | | 0.3 |
| Passband Return Loss (dB) | | 15 | |
| Coupling (dB) | | 20 | 22 |
| Directivity (dB) | | 12 | |
| CW Input Power** (W) | | | 25 |
| $\theta_{JC} \left(\frac{^{\circ}\text{C}}{\text{W}} \right)$ | 3 | | |
| Size (L x W x H) | 0.130 x 0.090 x 0.015 in 3.30 x 2.29 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 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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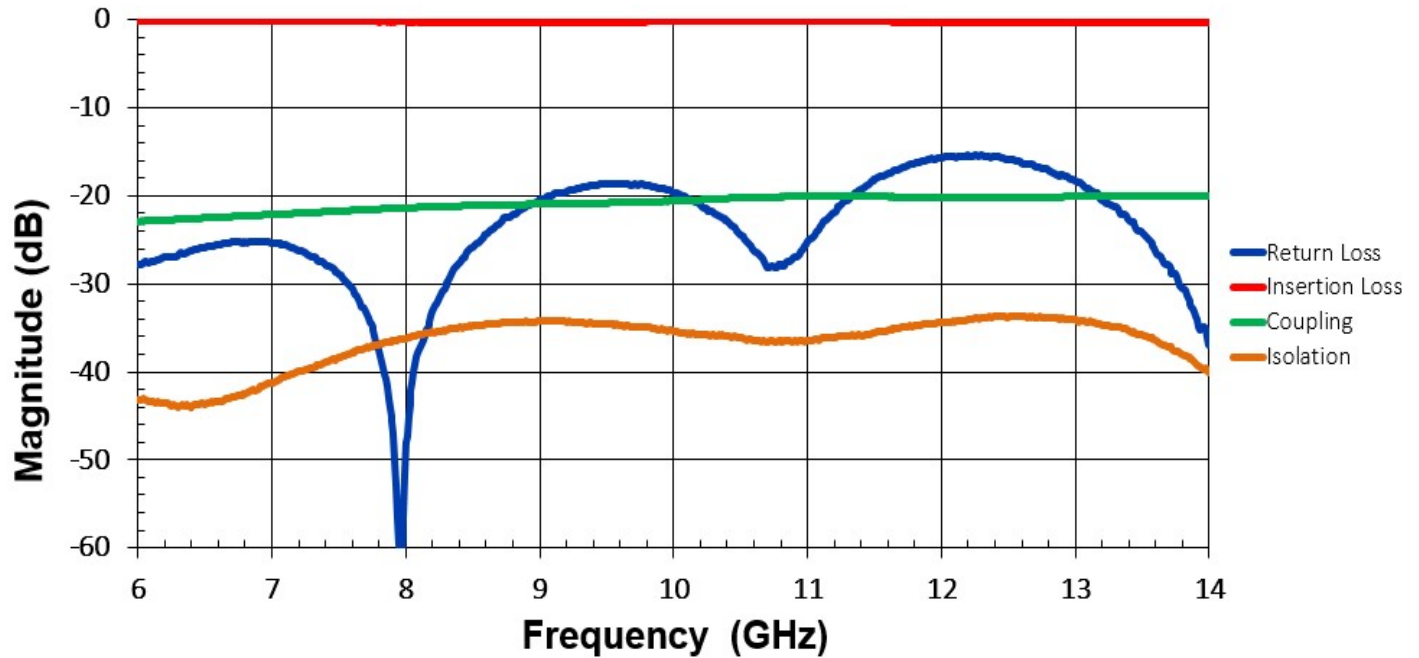
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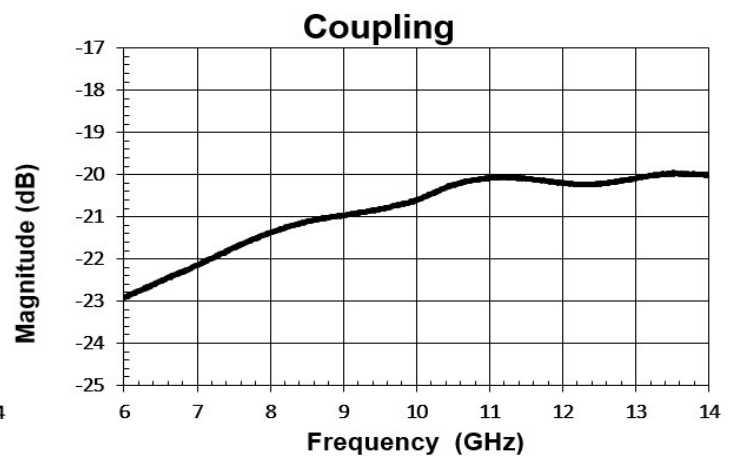
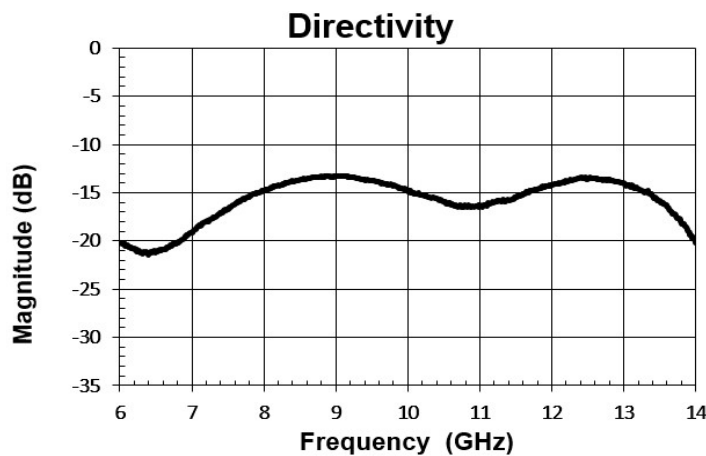
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Typical Measured Performance*



*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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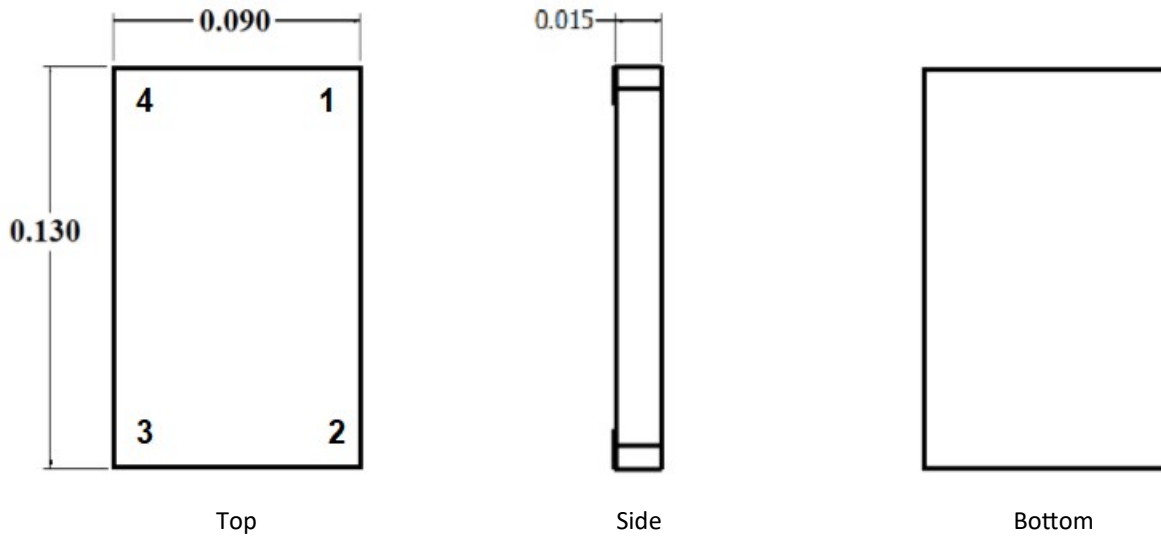
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Physical Dimensions

Units = Inches



Notes :

1. Termination Finish: Gold
2. Maximum Assembly Process Temperature: 250°C

Tolerances:

For values with 3 decimal places ± 0.001

For values with 4 decimal places ± 0.0005

| FPC06153 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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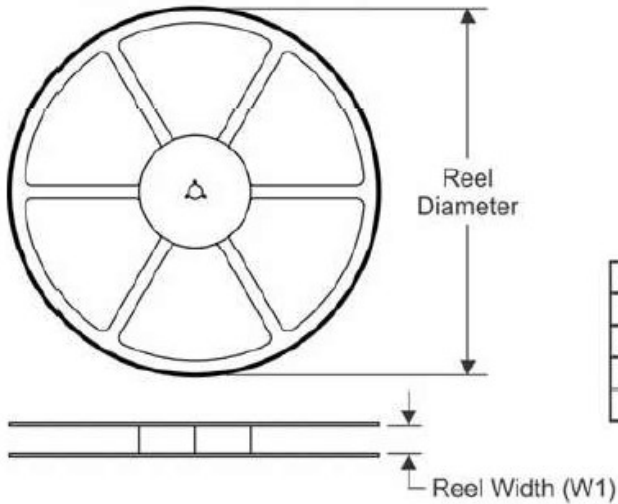
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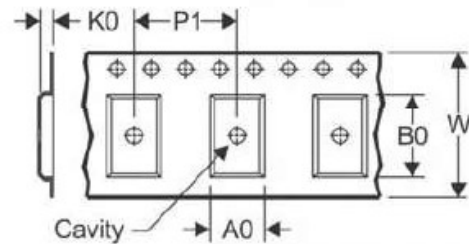
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TAPE AND REEL INFORMATION

REEL DIMENSIONS

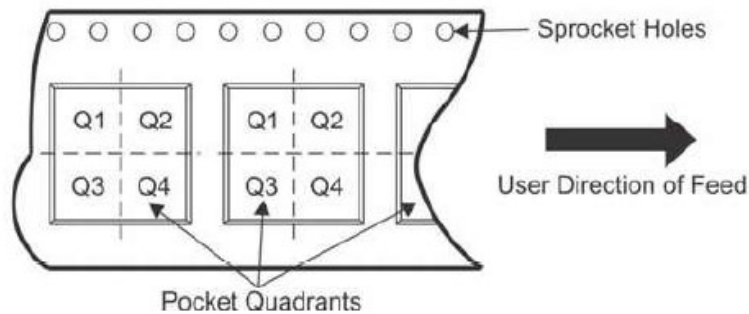


TAPE DIMENSIONS



| | |
|----|---|
| 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 |
|------------|--------------|--------------------|--------------------|---------|---------|---------|---------|--------|---------------|
| FPC06153-T | WB | 180 | 16.4 | 2.9 | 6.8 | 0.6 | 4 | 16 | Q2 |

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June 2024