

20 to 40GHz 10dB Directional Coupler FPC08057

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DESCRIPTION

DLI's wide band wire bond (WB) catalog directional coupler (WB version of surface mount coupler, FPC07181) is based on DLI's high dielectric ceramic materials which provide small size and minimal performance variation over temperature.

FEATURES

- Small Size
- Moisture Sensitivity Level: MSL 1
- Frequency Stable over Temperature
- Operating & Storage Temp: -55°C to +85C
- Characteristic Impedance: 50Ω

Packaging and Ordering Information:
To request Tape and Reel packaging, please order part number FPC08057-T, see additional data on page 4.

SPECIFICATIONS*

| Parameter | Frequency (GHz) | Min | Max |
|--|---|-----|------|
| Passband Excess Insertion Loss* (dB) | 20 - 40 | | 0.5 |
| Passband Return Loss (dB) | | 10 | 12 |
| Coupling (dB) | | 8.5 | 10.5 |
| 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) | 0.065 x 0.050 x 0.010 in 1.65 x 1.27 x 0.25 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.

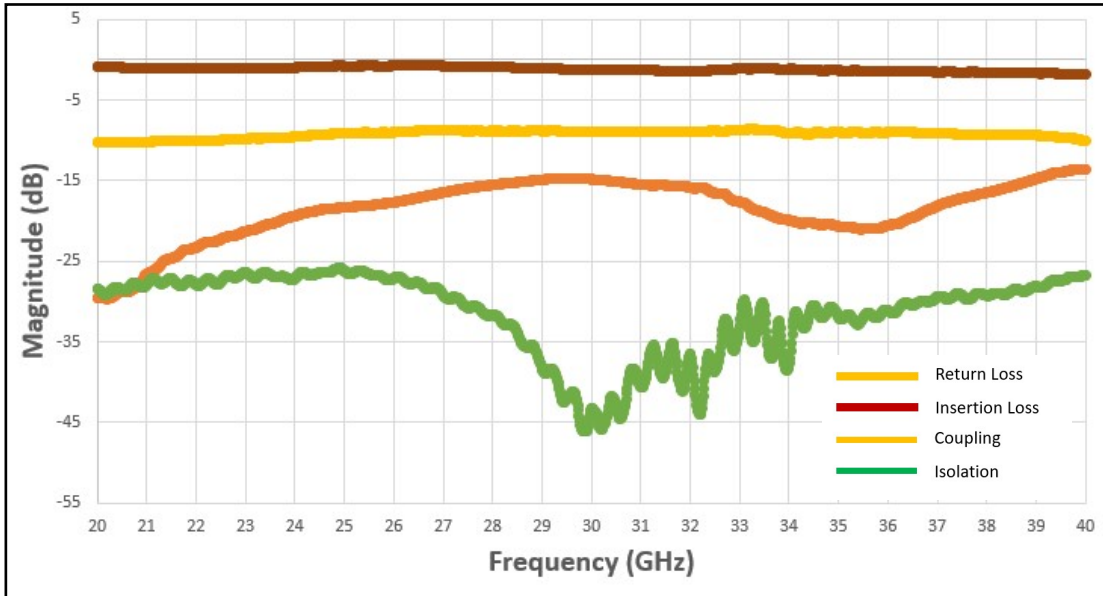
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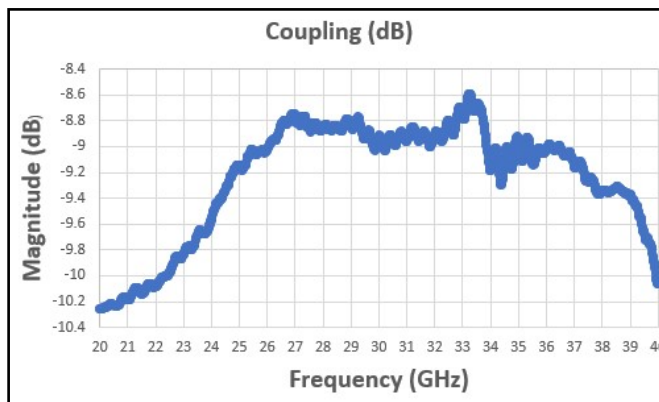
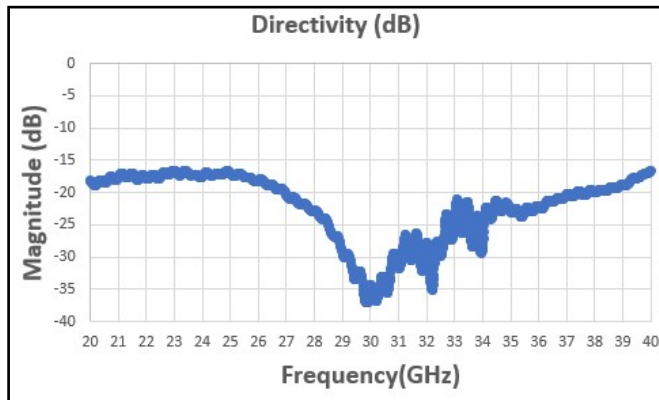
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FPC08057

Typical Measured Performance*



*Typical RF-GSG Probed measured performance



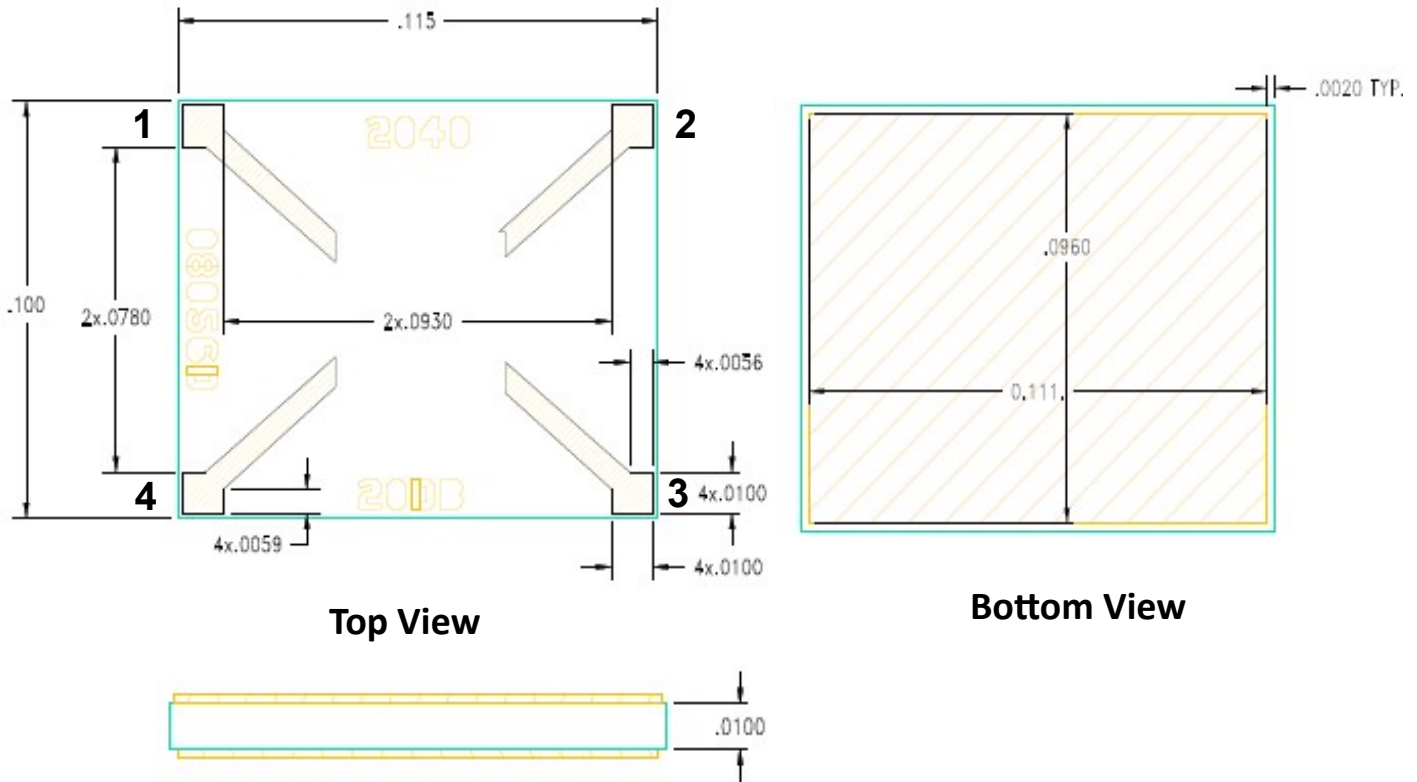
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Physical Dimensions

Units = inch



Top View

Bottom View

Side View

| FPC08057 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 |

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

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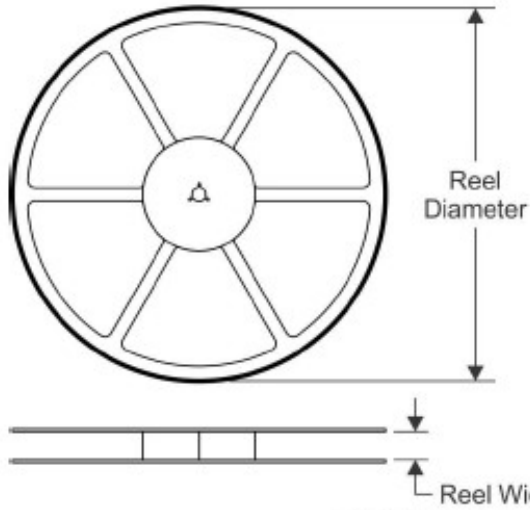
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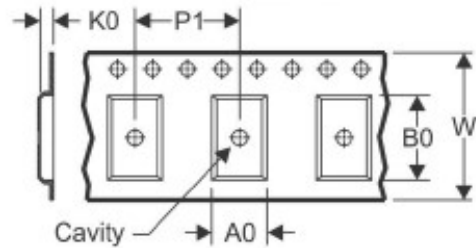
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TAPE AND REEL INFORMATION

REEL DIMENSIONS

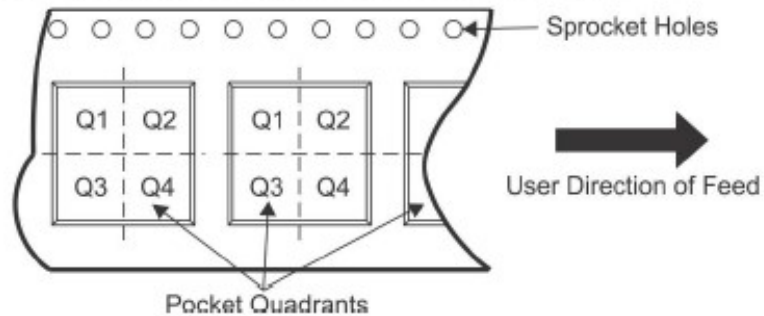


TAPE DIMENSIONS



| | |
|----|---|
| 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 |
|------------|--------------|--------------------|--------------------|---------|---------|---------|---------|--------|---------------|
| FPC08057-T | SMD | 180 | 8.4 | 1.3 | 1.76 | 0.5 | 4 | 8 | Q1&2 |

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