

## DC to 40GHz 20 dB Resistive Coupler FPC06881

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### DESCRIPTION

DLI brand high frequency surface mountable catalog resistive couplers utilize DLI's high dielectric ceramic materials to achieve small size and minimal performance variation over temperature. The components are well matched for monitoring incident and reflected power.

### FEATURES

- Small Size
- Fully Shielded Component
- Solder Surface Mount Package
- 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 FPC06881-T, see additional data on page 5.

### SPECIFICATIONS\*

Parameter	Frequency (GHz)	Min	Max
Passband Insertion Loss* (dB)	DC - 40	2.0	4.15
Passband Return Loss (dB)		10	
Coupling (dB)		17	23
CW Input Power** (W)			23
$\theta_{JC} \left( \frac{^{\circ}\text{C}}{\text{W}} \right)$	225		
Size (L x W x H)	0.060 x 0.088 x 0.010 in 1.52 x 2.24 x 0.254 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 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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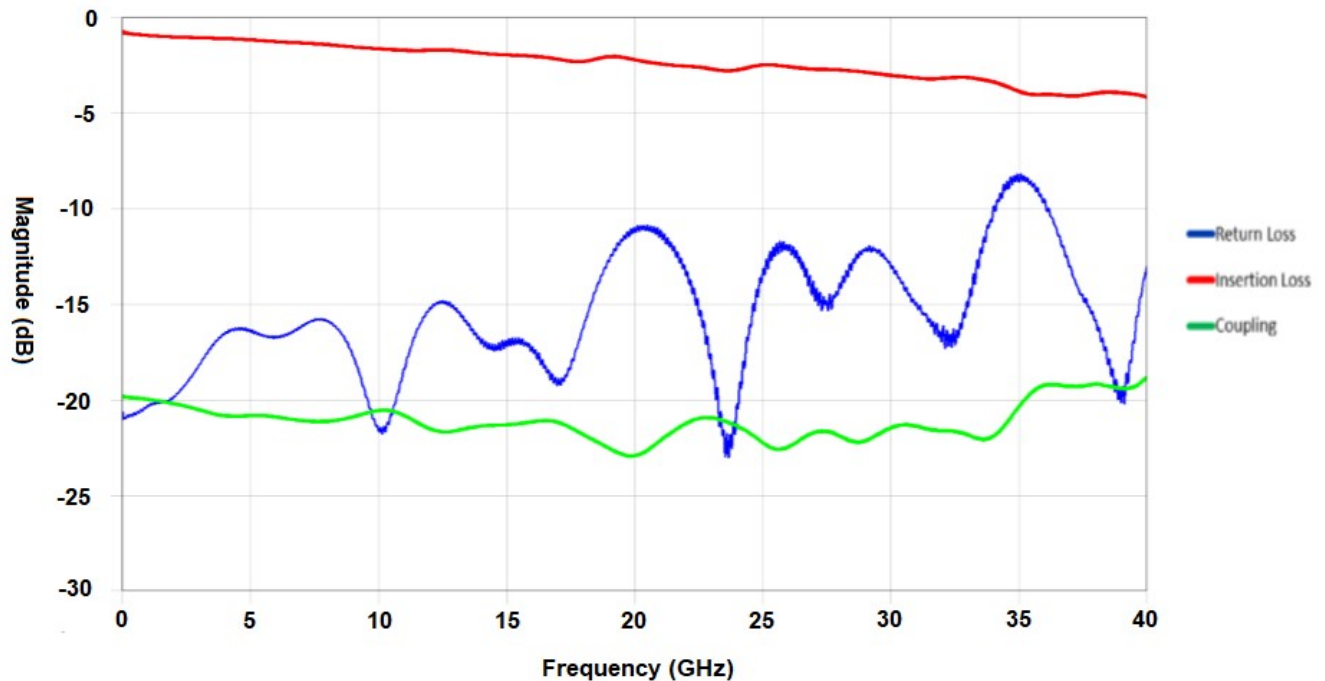
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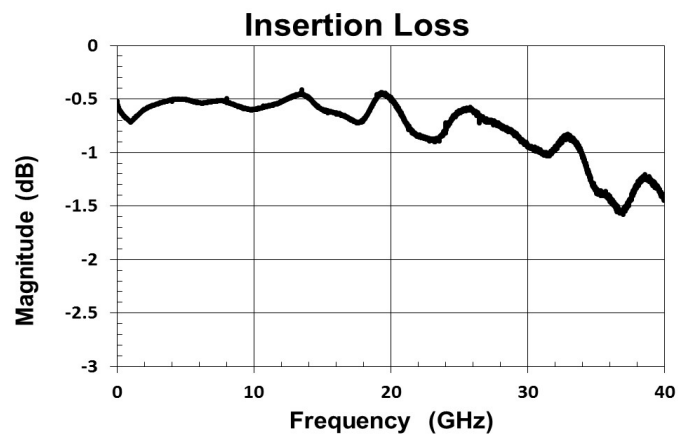
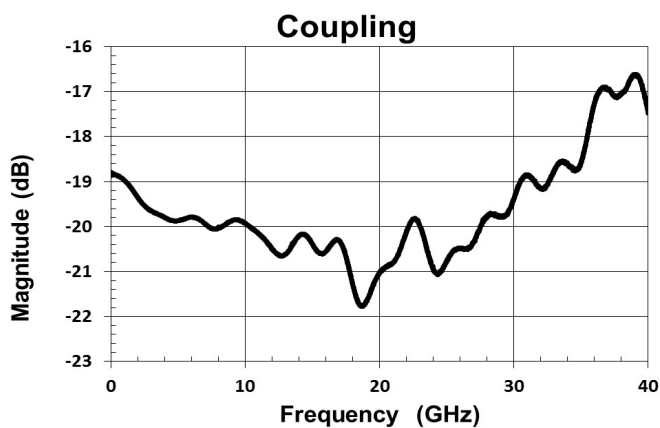
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## Typical Measured Performance



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



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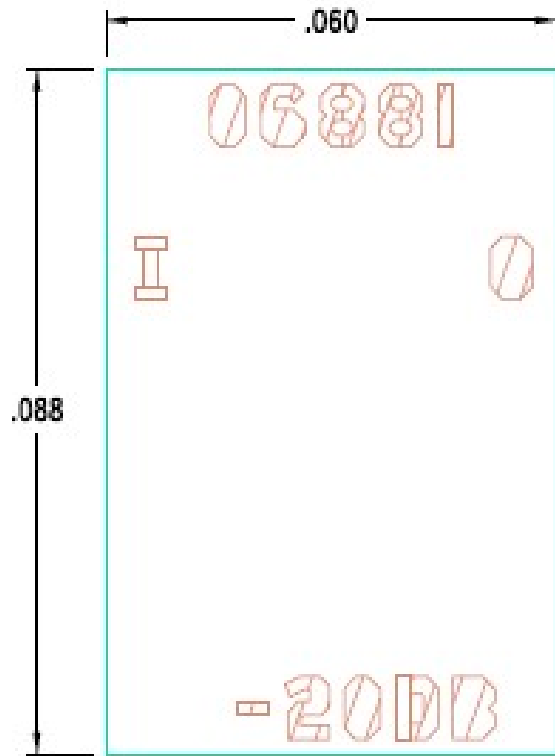
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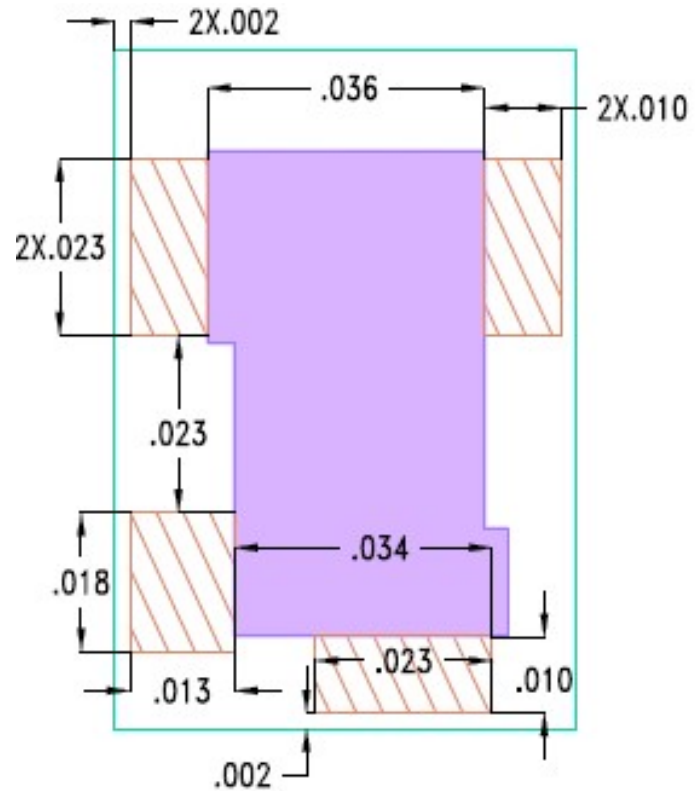
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**Physical Dimensions**

Units = inches

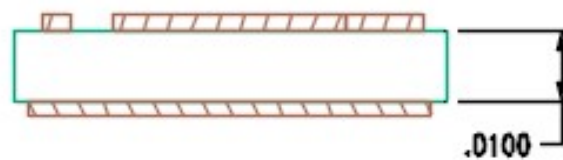


**Top View**



**Bottom View**

**Side View**



**Notes :**

1. Termination Finish:

ENIG: 3 - 6  $\mu$ inch Au over 50  $\mu$ inch Ni

2. Maximum Assembly Process Temperature: 250°C

**Tolerances:**

- For values with 3 decimal places  $\pm 0.001$
- For values with 4 decimal places  $\pm 0.0005$

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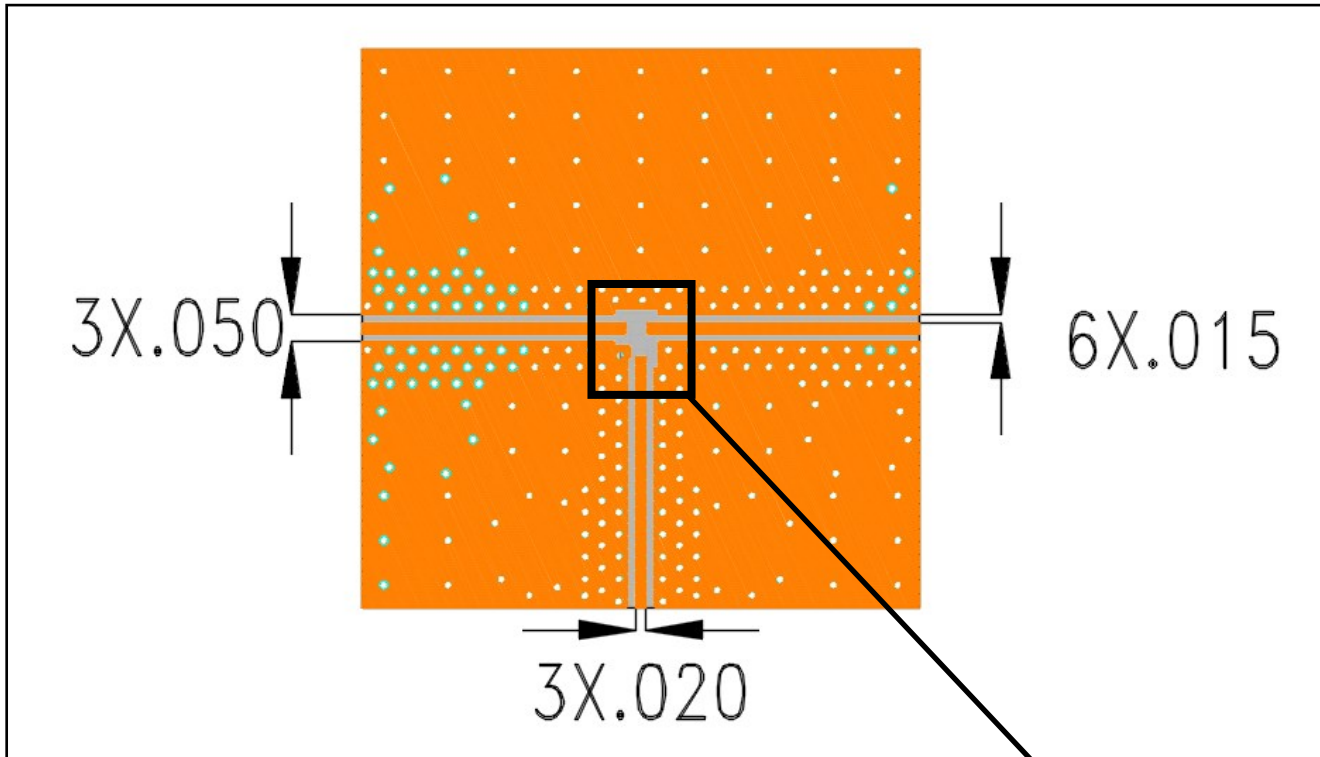
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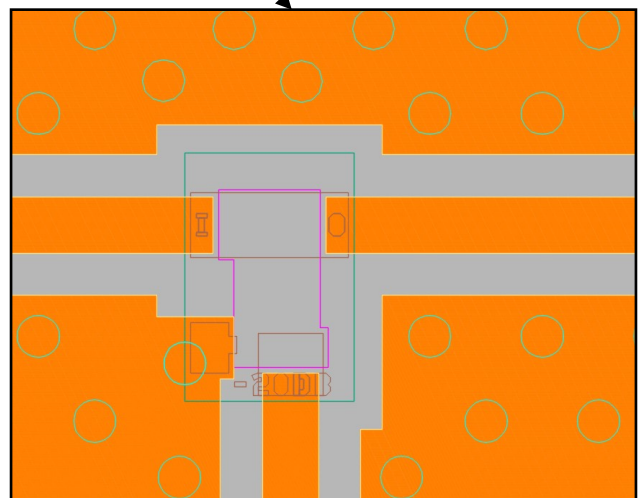
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**Recommended PCB Layout (unit inch)**

Units = inches



- 50Ω trace dimensions are application specific.
- 50Ω trace dimensions are designed for 10mil thick R04350B Rogers Board with 50 ohm GCPW:
  - 20 mil Copper Trace width
  - 15 mil spacing between trace and ground
  - 0.5 Oz / 0.5 Oz Copper, Plate Up
- Ensure adequate grounding beneath the part.
- Trace feed locations can be horizontal, vertical, or angled.



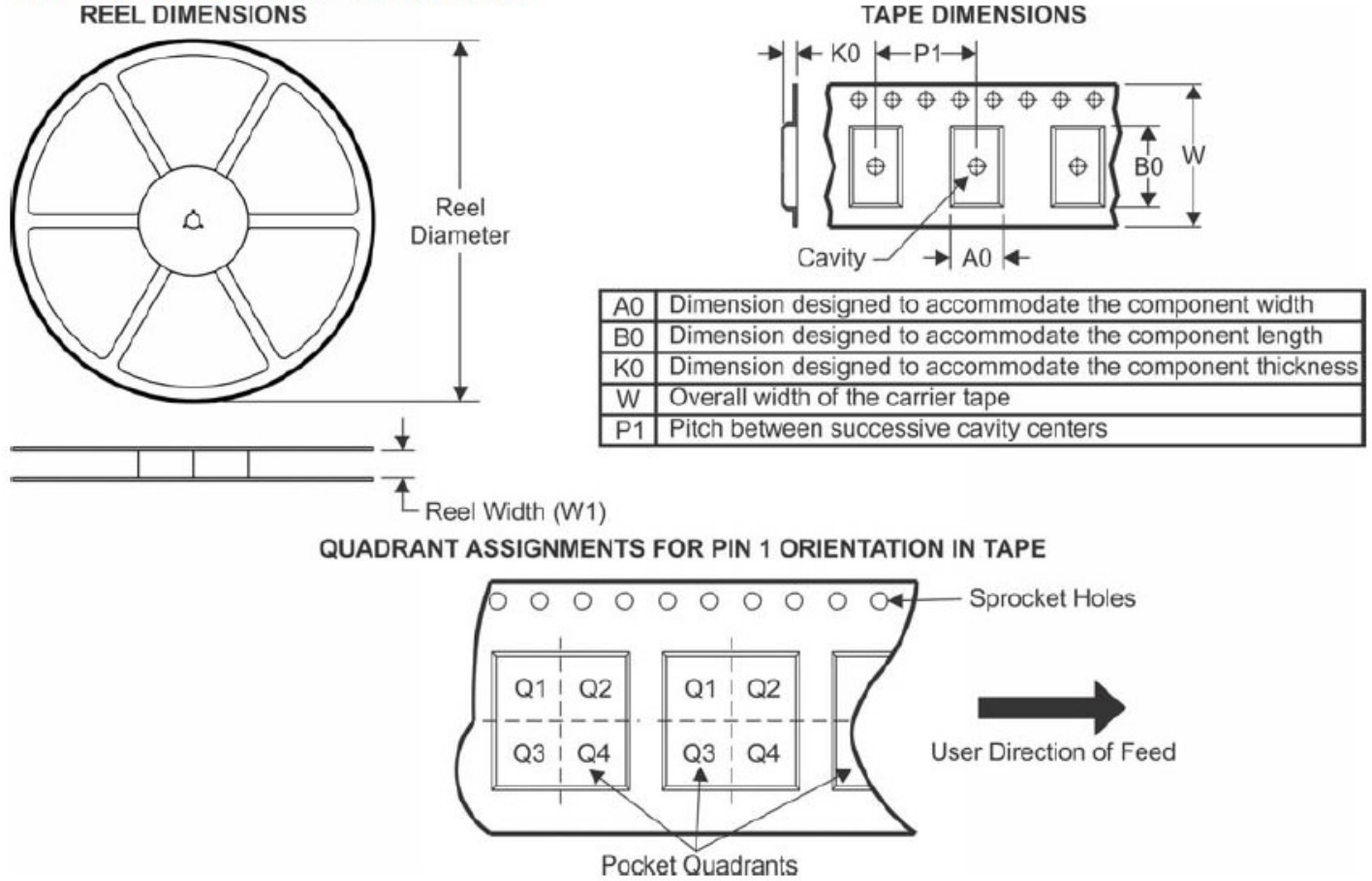
For further details and best practices, reference the **Microwave Products Guide**, available at: <https://www.knowlescapacitors.com/Support/Catalogs>

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**TAPE AND REEL INFORMATION**



\*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
FPC06881-T	SMD	180	8.4	1.9	2.4	0.6	4	8	Q1

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