

28 GHz 2-way Wilkinson Power Divider PDW07630

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DESCRIPTION

DLI's 28 GHz 2-way power divider / combiner offers unmatched size and performance in a surface mount configuration. This power divider utilizes DLI's low loss temperature stable materials which offer small size and minimal performance variation over temperature.

Packaging and Ordering Information:

To request tape and reel packaging, please order part number PDW07630-T, see page 5.

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
- Excellent Repeatability

SPECIFICATIONS*

| Parameter | Frequency Range (GHz) | Min | Typ. | Max |
|-------------------------------------|-----------------------|------|------|-------|
| Nominal Power Splitting (dB) | 24 - 32 | | 0.25 | 0.5 |
| Nominal Phase Shift (Deg) | | | 0.0 | |
| Excess Insertion Loss (dB) | | | | 0.7 |
| Return Loss (dB) | | 15.0 | 20.0 | |
| Amplitude Balance (dB) | | | | ± 0.5 |
| Phase Balance (Deg) | | | | ± 5.0 |
| Isolation (dB) | | 14.0 | 15.0 | |
| Max CW Input Power** as Divider (W) | | | | 10 |
| Max CW Input Power** as Combiner*** | | | | 5 |

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

***Power rating as a combiner assumes that the incoming signals are of equal amplitude and phase.



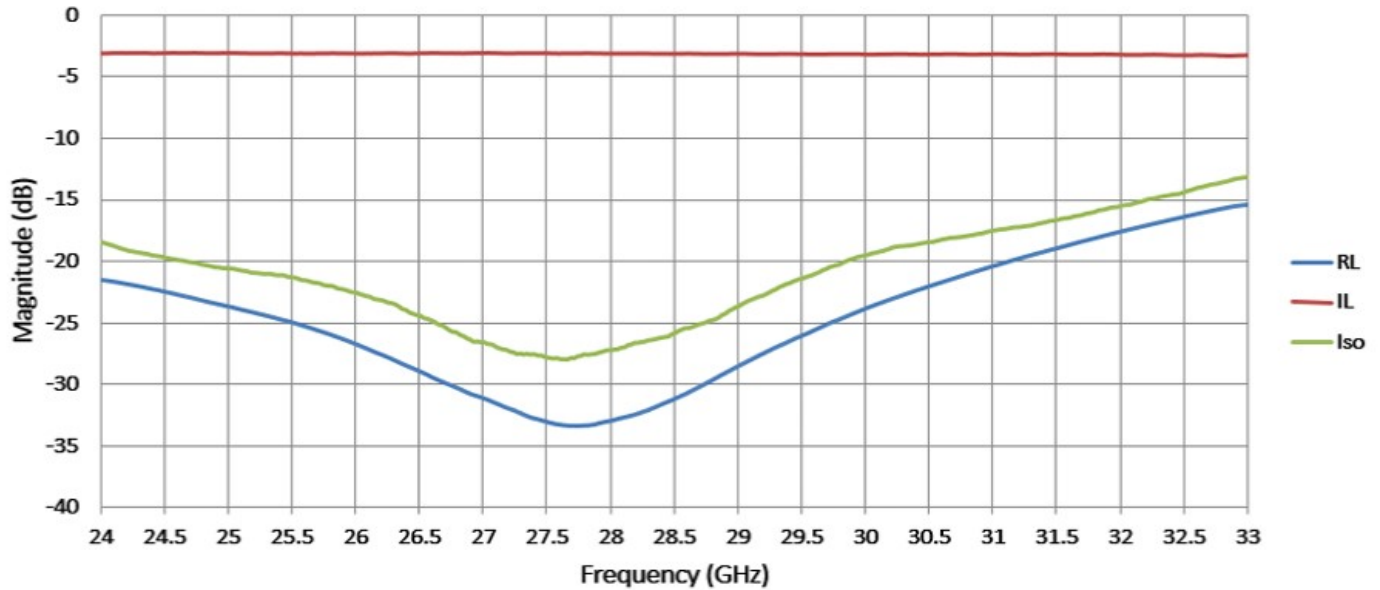
Information in this document is for informational and guideline purposes only. All information regarding the Product described in this datasheet is subject to change from time to time at Knowles Precision Devices' sole discretion. It is the customer's sole responsibility to evaluate the suitability of 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 0.010 in. RO4350B with 50.0Ohm CPW ground traces going into the ports at room temperature.

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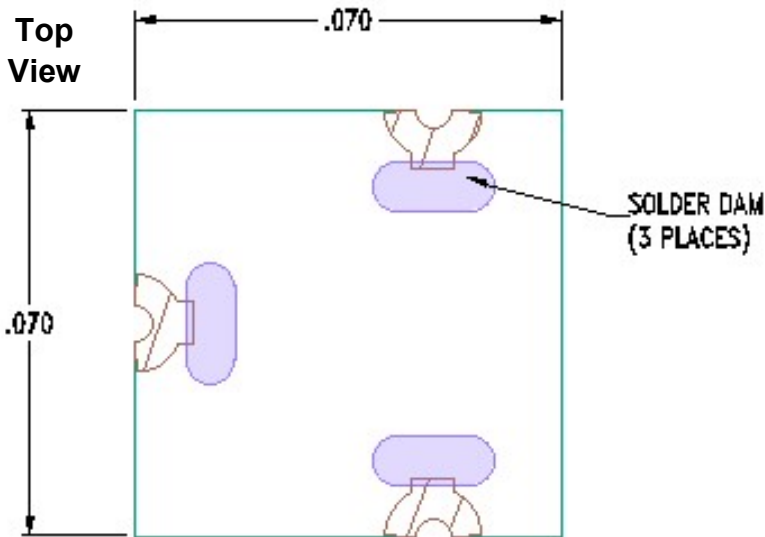
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Physical Dimensions

Units = Inches

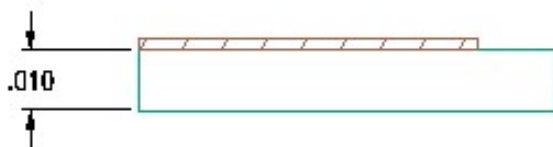


Tolerances:

For values with 3 decimal places ± 0.001

For values with 4 decimal places ± 0.0005

Side View

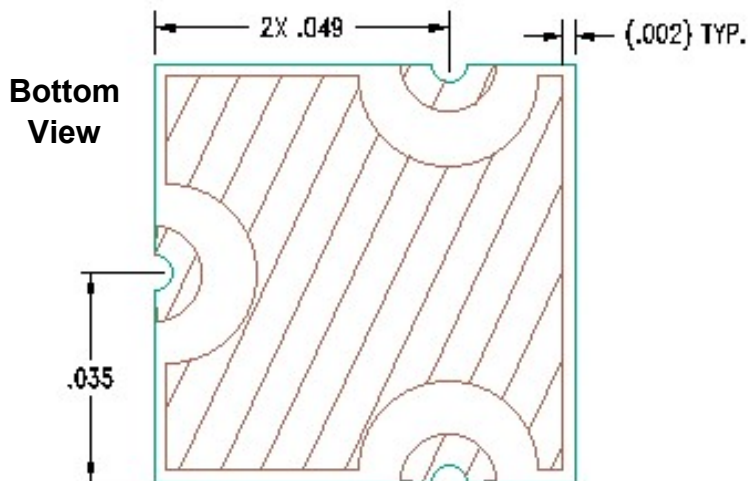


Notes :

1. Termination Finish:

ENIG: 3 - 6 μ inch Au over 50 μ inch Ni

2. Maximum Assembly Process Temperature: 250°C

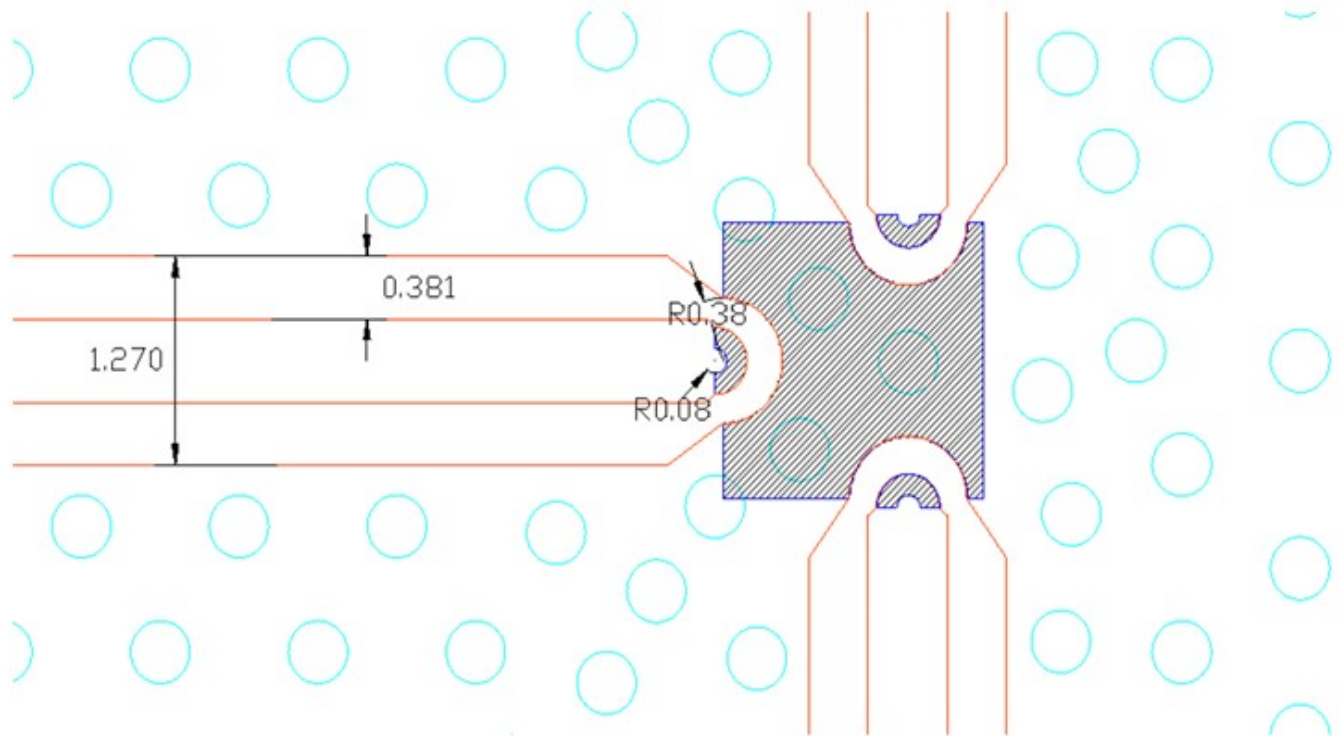


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Recommended PCB Layout



Recommended PCB board :

- 50Ω GCPW traces are used to carry RF signals into the port
- Ensure adequate grounding beneath the part.
- 10.0 mil Roger Board RO4350B

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

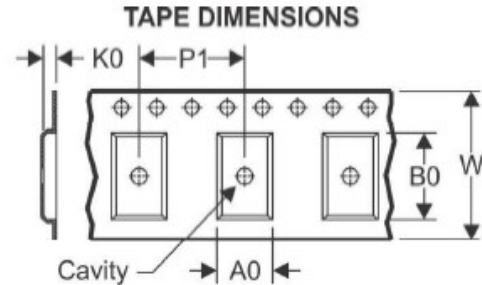
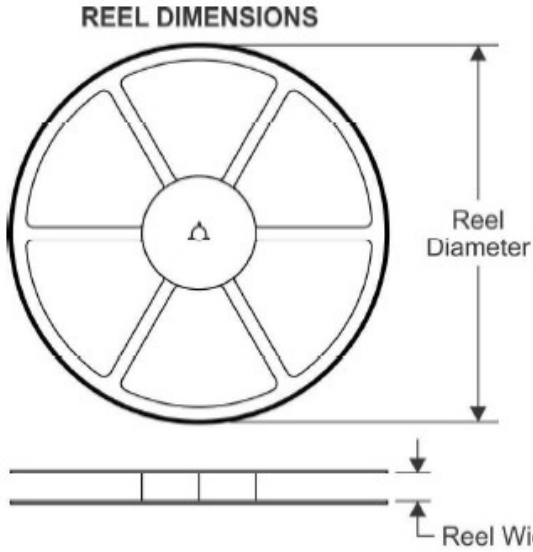
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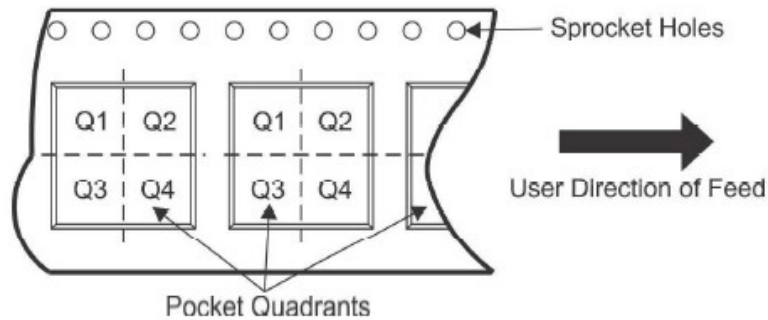
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TAPE AND REEL INFORMATION



| | |
|----|---|
| 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 |
|------------|--------------|--------------------|--------------------|---------|---------|---------|---------|--------|---------------|
| PDW07630-T | SMD | 180 | 8.4 | 2.1 | 2.1 | 0.8 | 4 | 8 | Q1&2 |

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