

## DC- 40 GHz Flip Chip Resistive Divider

**PDR06380**

[www.knowlescapacitors.com](http://www.knowlescapacitors.com)

### DESCRIPTION

A flip chip resistive divider ideal for applications where small size and broad band performance are critical for success. This component is ideal for test and measurement and optical applications. The divider is provided with all pads ENIG plated for solder surface mount integration.

**Packaging and Ordering Information:** To request Tape and Reel packaging, please order part number PDR06380T, see additional data on page 6.

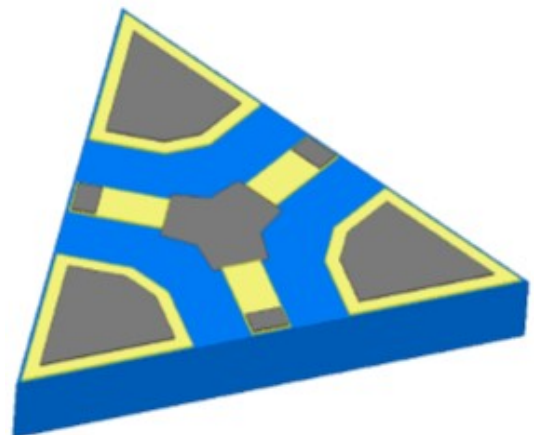
### FEATURES

- Small Size
- Frequency Stable over Temperature
- Flip Chip Solder Surface Mountable
- Moisture Sensitivity Level: MSL1
- Operating & Storage Temp: -55°C to +125°C
- Characteristic Impedance: 50Ω

### SPECIFICATIONS\*

Parameter	Frequency	Min	Typ	Max
Excess Insertion Loss (dB)	DC - 40GHz		0.5dB	1dB
Return Loss (dB)	DC - 30GHz	20dB	25dB	
	30-40GHz	10dB	15dB	
Size (LxWxH)		0.075 x 0.065 x 0.010 in 1.905 x 1.651 x 0.254 mm		

\*Electrical specifications based on typical probed performance at room temperature. Insertion loss shall vary  $\pm 0.5$ dB over temperature.



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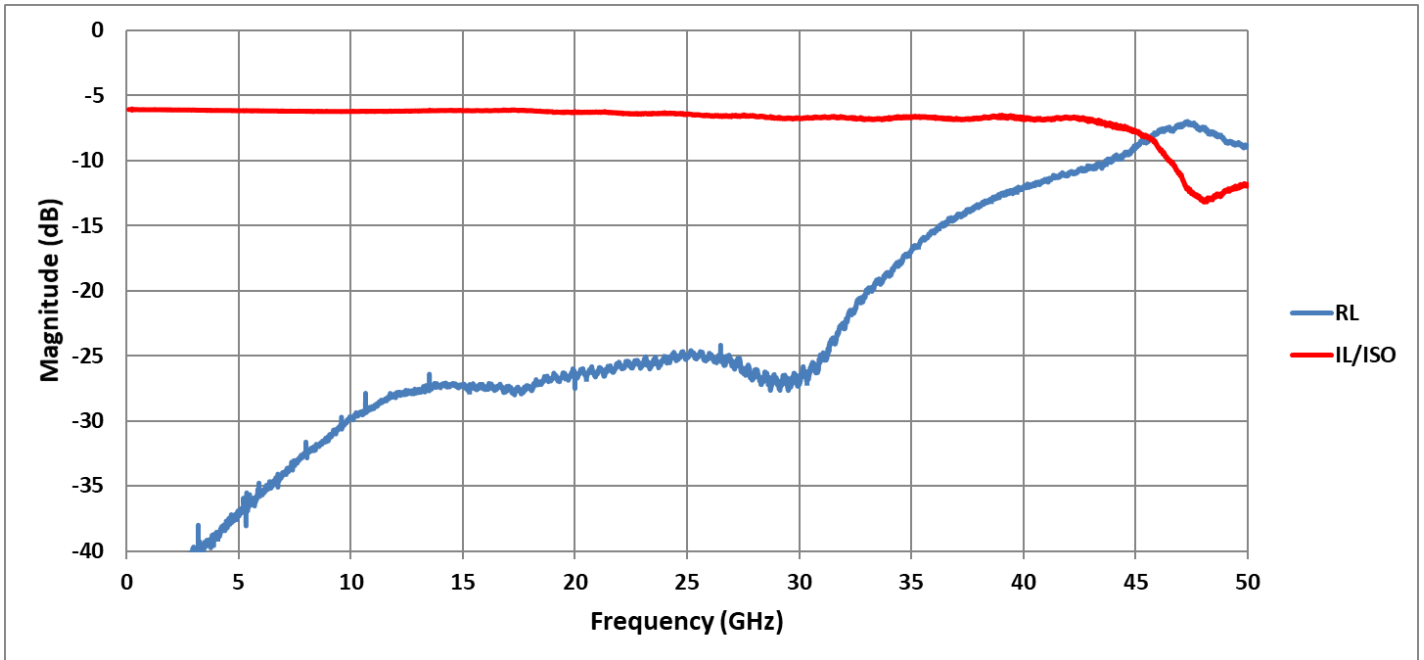
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### Typical Measured Performance



\*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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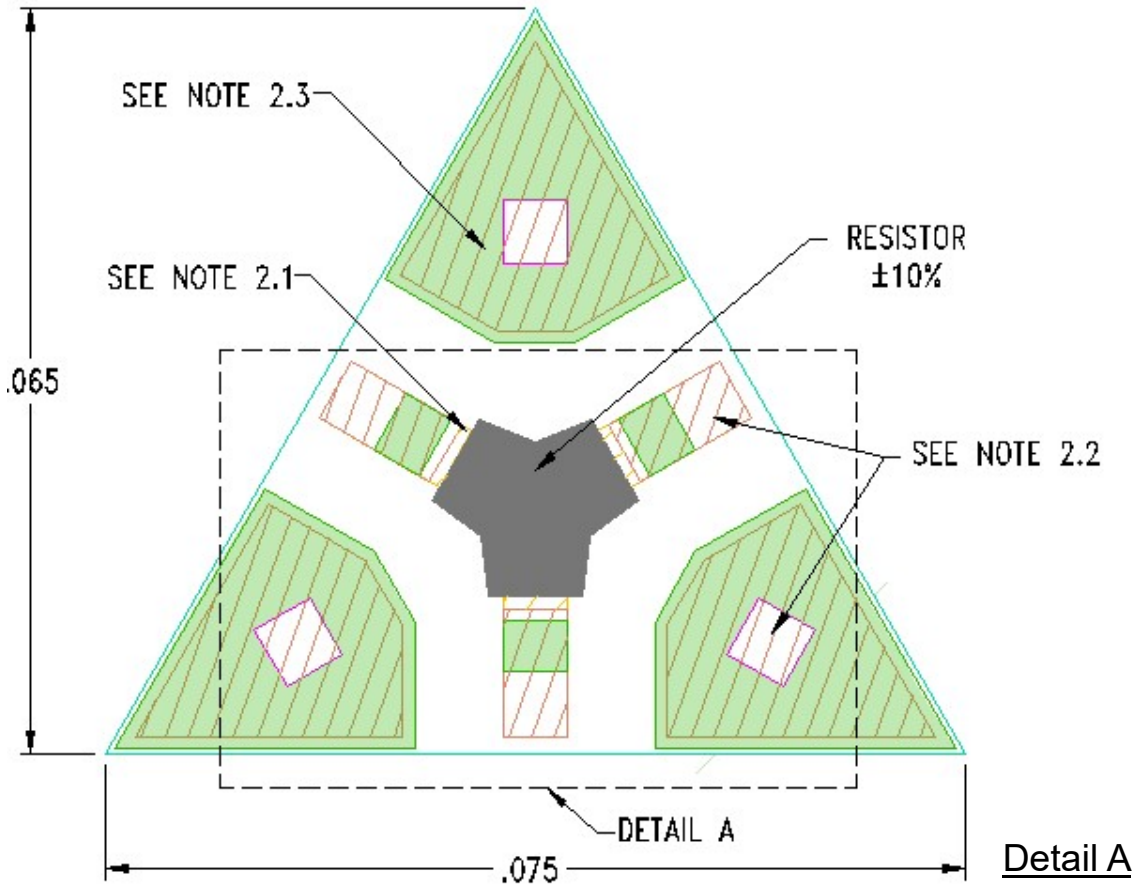
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**Detailed Physical Dimensions**

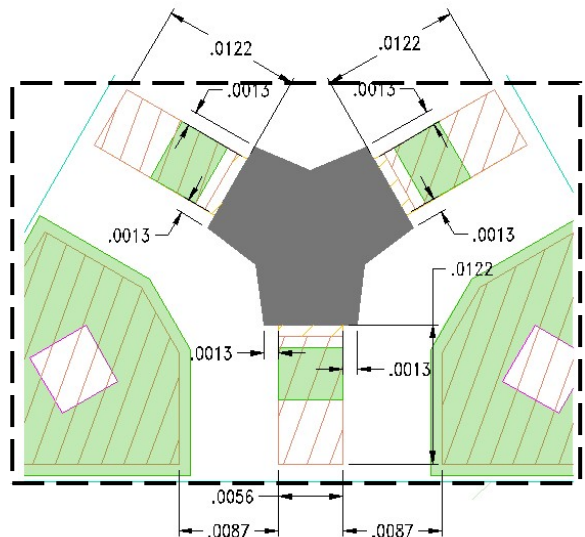


**Notes :**

1. Maximum Assembly Process Temperature: 250°C
- 2.1 and 2.2 Mounting Surface Metallization:  
ENIG: 3 - 6 μinch Au over 50 μinch Ni
- 2.3 Solder Resistant NiOx areas (green)

**Tolerances:**

- For values with 3 decimal places ±0.001
- For values with 4 decimal places ±0.0005

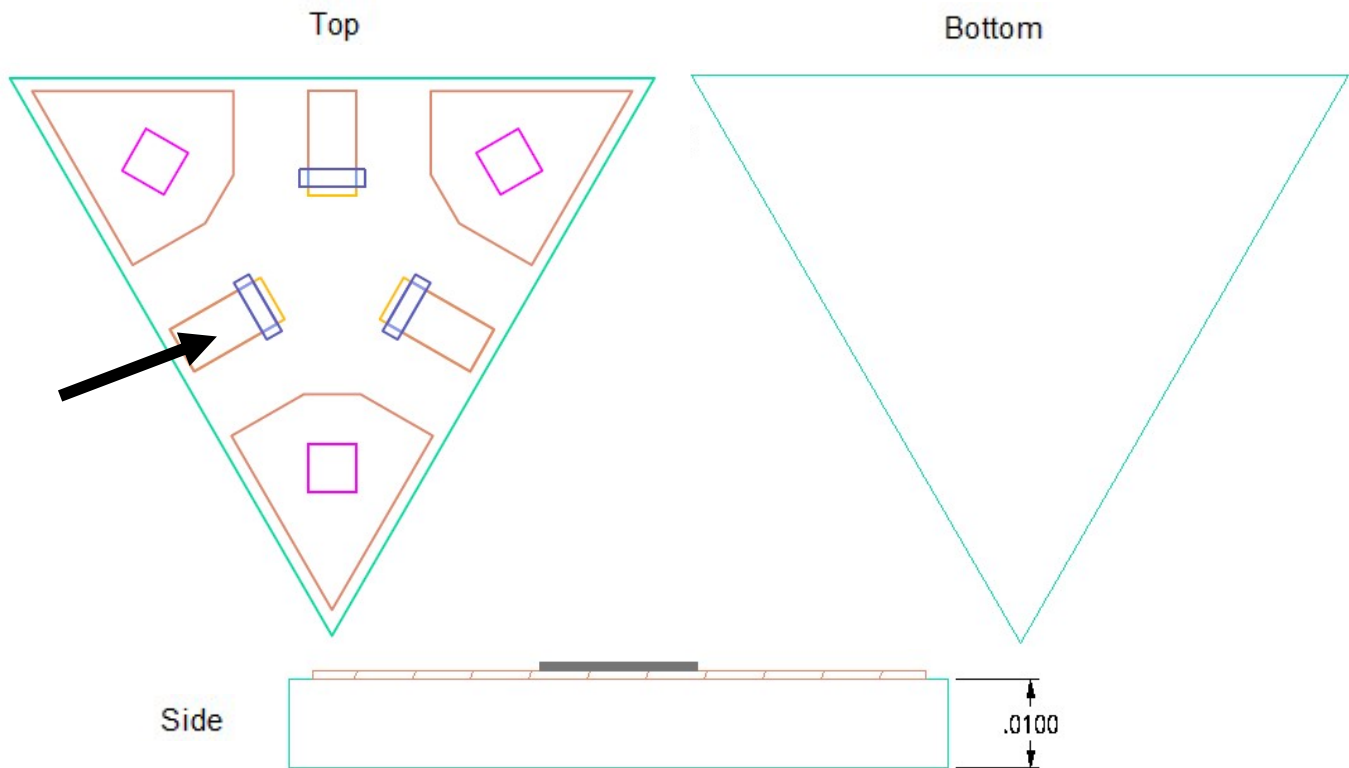


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**Notes on Part Configuration -  
Considerations for Stencil Design**

Units = inches



This part is mounted with the **Top** side attached to PCB.

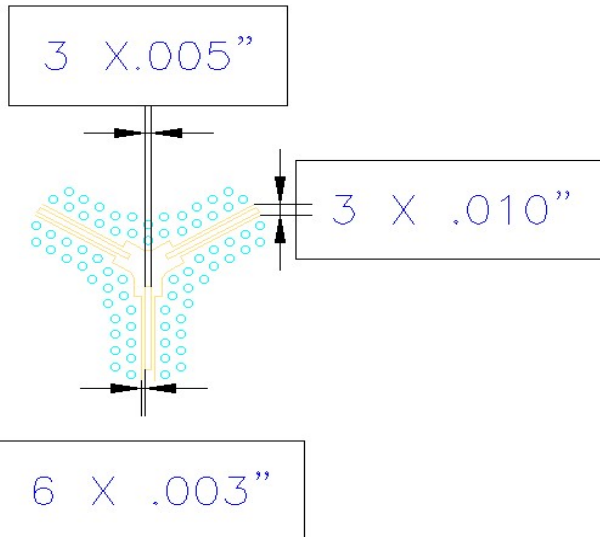
Critical areas to solder are as follows:

IOs: Areas in the middle of each side - Indicated with an arrow

Grounding Pads: Squares in corners (in magenta)

Solder stencil apertures should align with all 6 areas and may need dimensions larger than the pads to facilitate consistent solder deposition, depending on chosen stencil thickness. Since the surrounding areas are resistant to solder, the connection will be constrained to the pad. Excess solder is a concern, so best practice is to choose the smallest aperture size with good release in the assembly process.

## Recommended PCB Layout (Unit = inches)



### Recommend PCB board :

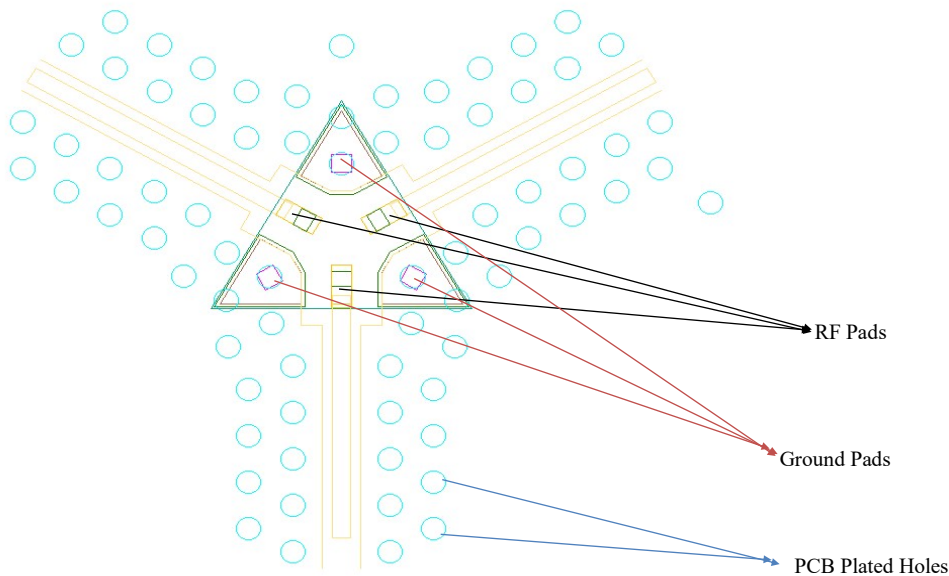
RF signal is carried on  $50.0\Omega$  GCPW trace with the following critical dimensions :

10.0 mil thick Alumina (AL) board

5.0 mil width RF trace (copper)

3.0 mil gap between the RF trace and PCB ground.

### Detail: PDR06380 Mounted on Recommend PCB

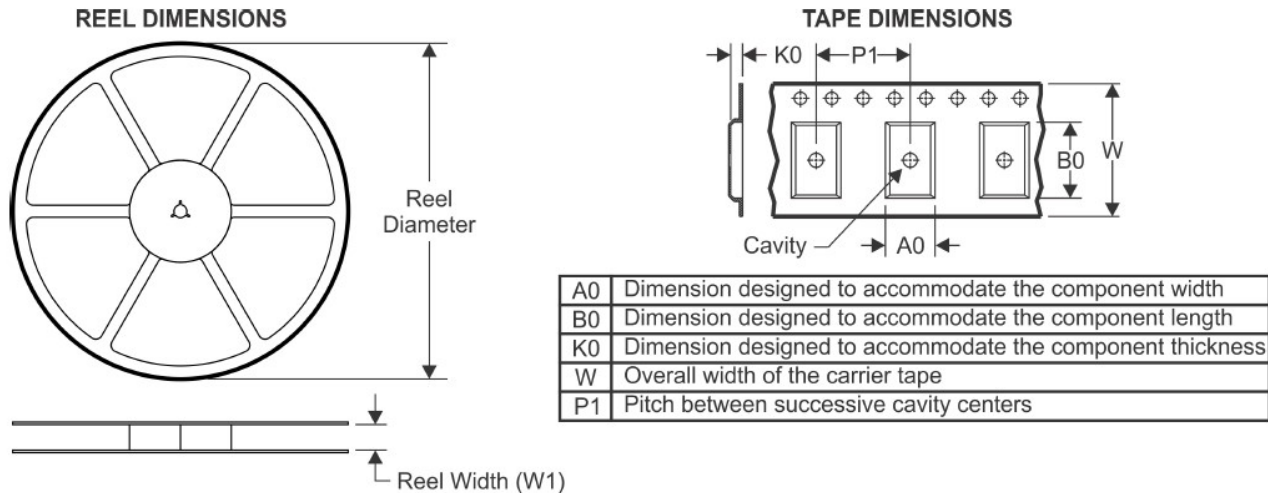


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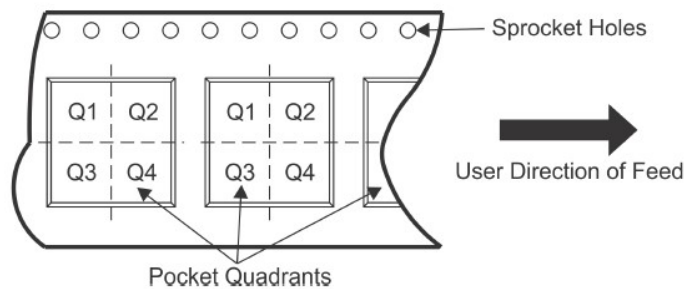
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### TAPE AND REEL INFORMATION



### QUADRANT ASSIGNMENTS FOR PIN 1 ORIENTATION IN TAPE



\*All dimensions are nominal

Device	Package Type	Package Drawing	Pins	SPQ	Reel Diameter (mm)	Reel Width W1 (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P1 (mm)	W (mm)	Pin1 Quadrant
PDR06380-T	SMD		3	TBD	180.0	8.5	2.25	1.95	0.047	4.0	8.0	Q1/2

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