



WR-10 10 dB Directional Waveguide Coupler  
With UG 387/U-Mod Flange and H-Plane Coupled  
Port From 75 GHz to 110 GHz W Band

TECHNICAL DATA SHEET

PE-W10CP001-10

The PE-W10CP001-10 is a millimeter-wave directional waveguide coupler that operates in the frequency range of 75 to 110 GHz (W Band). This W band component offers a nominal coupling level of 10 dB, mean coupling accuracy of +/- 1, coupling flatness of 1.5 dB, and has a maximum VSWR level of 1.2:1. The design is made of gold plated brass copper and incorporates a multi-hole configuration that results in typical directivity of 30 dB. Common applications for this millimeter wave component involve test setups where power reflection measurements are required that might involve power sampling and frequency monitoring with minimal signal loss to the main transmission path. This H plane coupler uses integrated WR-10 waveguide ports with UG 387/U-Mod flanges. Pasternack offers a complete family of waveguide millimeter wave directional couplers that are in-stock for same day shipment.

**Features**

- 10 dB Nominal Coupling Level
- H-Plane Waveguide Coupler
- 75 GHz to 110 GHz Frequency Range
- Body and Flanges made of Brass Copper
- Gold Plated Waveguide
- 1.2:1 VSWR

**Applications**

- Test Benches
- Radar
- Satellite
- Microwave Radio
- Attenuation Measurements
- Power Measurements
- Source Leveling

**Configuration**

|                |                     |
|----------------|---------------------|
| Waveguide Size | WR-10               |
| Flange 1       | UG 387/U-Mod        |
| Flange 2       | UG 387/U-Mod        |
| Flange 3       | UG 387/U-Mod        |
| Design         | Directional Coupler |

**Electrical Specifications** (Values at 25°C, sea level)

| Description            | Minimum | Typical | Maximum | Units |
|------------------------|---------|---------|---------|-------|
| Frequency Range        | 75      |         | 110     | GHz   |
| Directivity            |         | 30      |         | dB    |
| Insertion Loss         |         |         | 1.4     | dB    |
| Input VSWR             |         |         | 1.2:1   |       |
| Secondary Line VSWR    |         |         | 1.2:1   |       |
| Nominal Coupling Level |         | 10      |         | dB    |
| Mean Coupling Accuracy |         |         | ±1      | dB    |
| Coupling Flatness      |         |         | ±1.5    | dB    |

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [WR-10 10 dB Directional Waveguide Coupler With UG 387/U-Mod Flange and H-Plane Coupled Port From 75 GHz to 110 GHz W Band PE-W10CP001-10](#)



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**Mechanical Specifications**

**Size**

|            |                    |
|------------|--------------------|
| Length     | 3.5 in [88.9 mm]   |
| Width/Dia. | 1 in [25.4 mm]     |
| Height     | 0.82 in [20.83 mm] |

**Waveguide**

|          |              |
|----------|--------------|
| Size     | WR-10        |
| Material | Brass Copper |
| Plating  | Gold         |
| Color    | Gold         |

| Description | Flange 1     | Flange 2     | Flange 3     |
|-------------|--------------|--------------|--------------|
| Interface   | UG 387/U-Mod | UG 387/U-Mod | UG 387/U-Mod |
| Material    | Brass Copper | Brass Copper | Brass Copper |
| Plating     | Gold         | Gold         | Gold         |
| Color       | Gold         | Gold         | Gold         |

**Compliance Certifications** (visit [www.Pasternack.com](http://www.Pasternack.com) for current document)

|                 |            |
|-----------------|------------|
| RoHS Compliant  |            |
| REACH Compliant | 06/20/2013 |

**Plotted and Other Data**

Notes:

- Values at 25 °C, sea level

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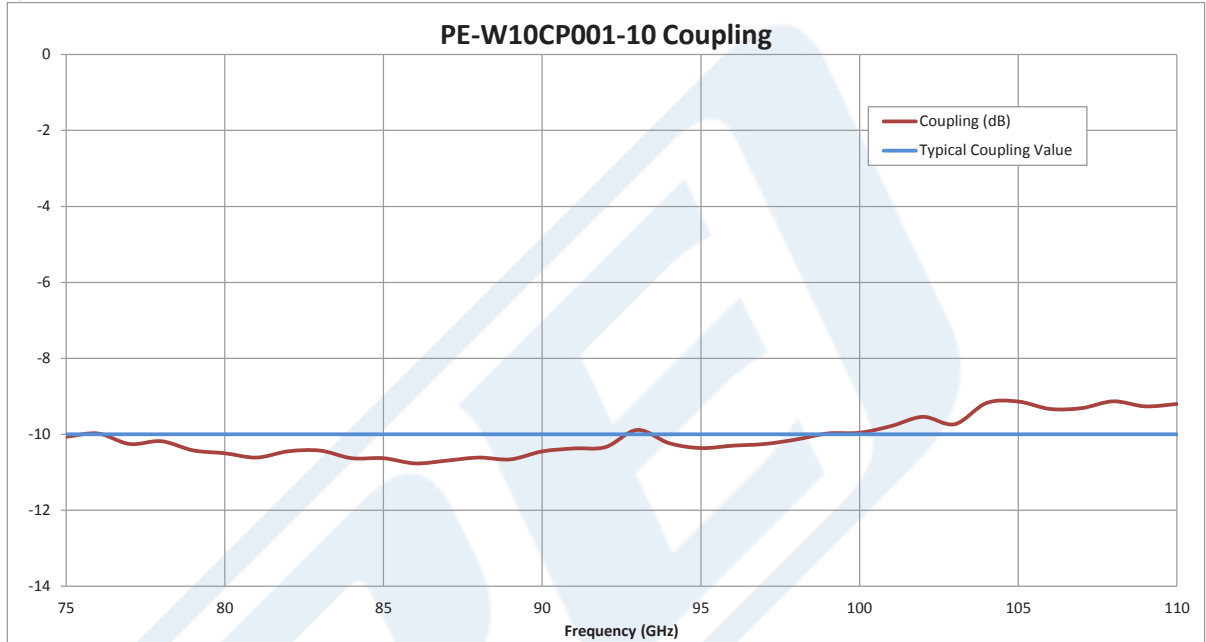


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Typical Performance Data



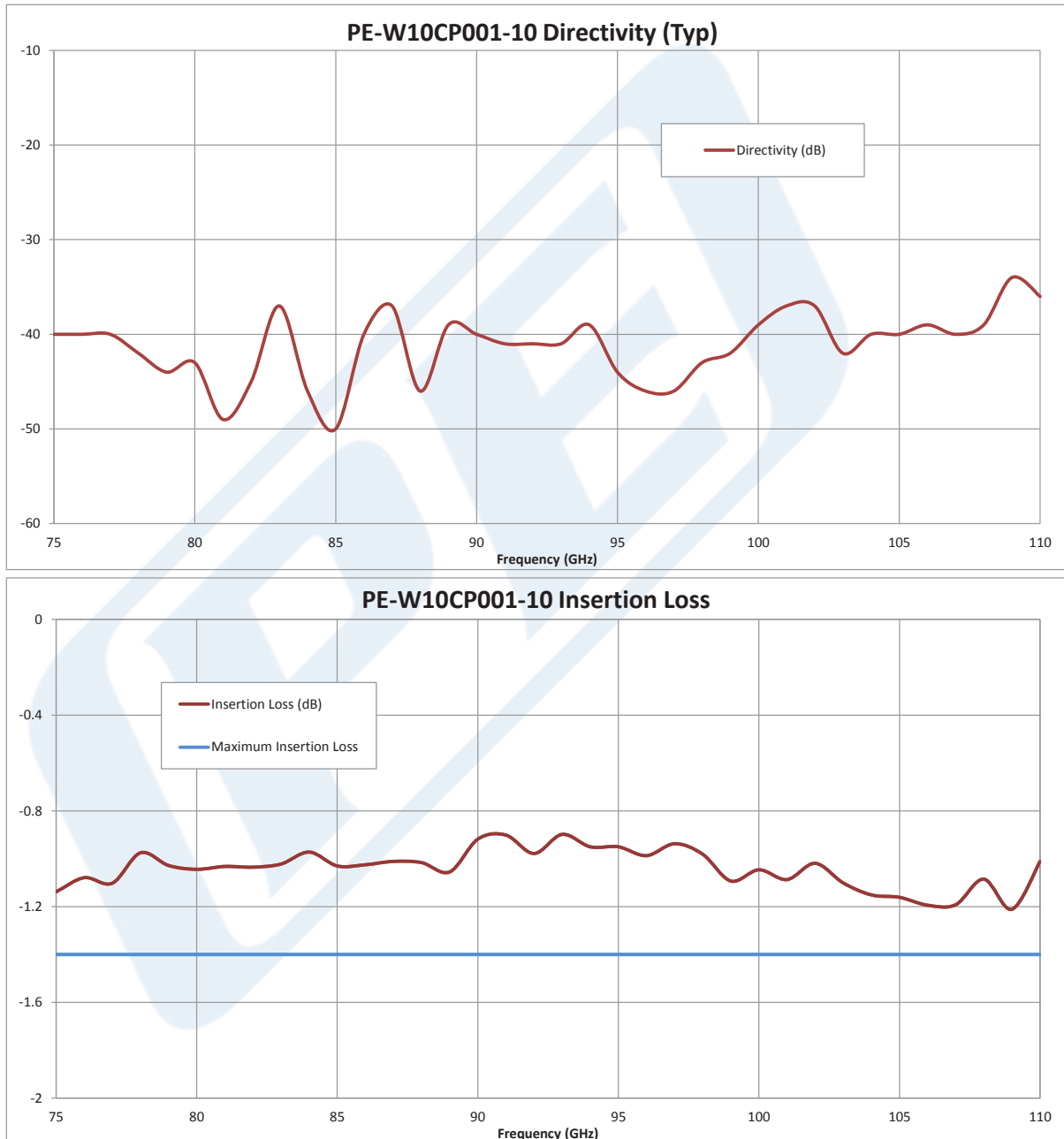
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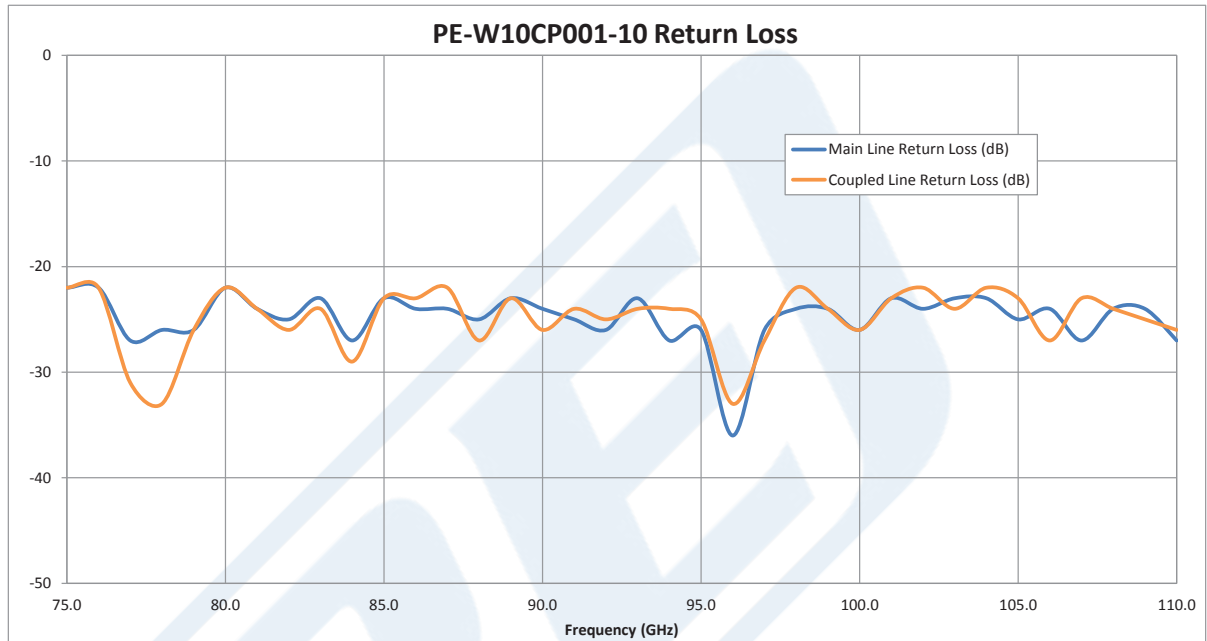
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WR-10 10 dB Directional Waveguide Coupler With UG 387/U-Mod Flange and H-Plane Coupled Port From 75 GHz to 110 GHz W Band from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99% availability and are part of the broadest selection in the industry.

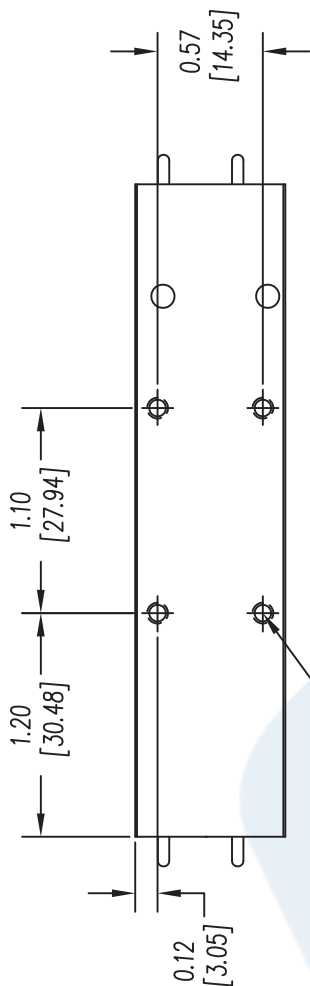
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [WR-10 10 dB Directional Waveguide Coupler With UG 387/U-Mod Flange and H-Plane Coupled Port From 75 GHz to 110 GHz W Band PE-W10CP001-10](http://www.pasternack.com/wr-10-10db-directional-waveguide-coupler-ug-387-mod-h-bend-pe-w10cp001-10-p.aspx)

URL: <http://www.pasternack.com/wr-10-10db-directional-waveguide-coupler-ug-387-mod-h-bend-pe-w10cp001-10-p.aspx>

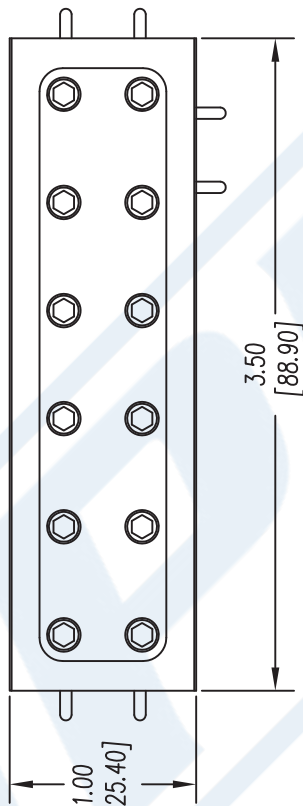
The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Pasternack reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Pasternack does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Pasternack does not assume any liability arising out of the use of any part or documentation.

# PE-W10CP001-10 CAD Drawing

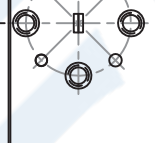
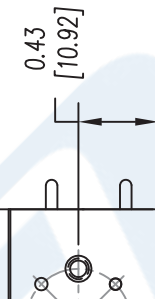
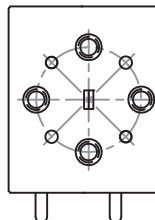
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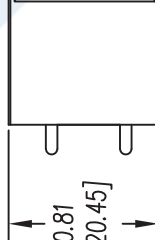
4-40 x THRU  
4 PLS



WR-10 WAVEGUIDE  
W/UG387/U-M FLANGE  
3 PLS



PASTERNAK  
PE-W10CP001-10  
YYWW  
www.pasternack.com



UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN: inches

TOLERANCES ARE: [mm]

.XX ± .02 [±.51]

.XX ± .005 [±.13]

\* THESE DIMENSIONS AND TOLERANCES  
SUPERSEDE NOTE #1 ON TITLE BLOCK.



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DWG TITLE

PE-W10CP001-10

NOTES:  
1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.  
2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.  
3. DIMENSIONS ARE IN INCHES [mm].

FSCM NO. 53919

CAD FILE 063015

SCALE N/A

SIZE A

2233