



## 90 Degree 2.92mm Hybrid Coupler from 20 GHz to 40 GHz Rated to 20 Watts

### Hybrids Technical Data Sheet

PE2CP1148

#### Features

- 90° Phase Shift Between Output Ports
- High power handling of 20 Watts CW
- 20 to 40 GHz Frequency Range
- VSWR 1.6:1 Typical
- High Isolation of 12 dB Minimum
- Low 1.6 dB Insertion Loss Typical
- 2.92mm Female Connectors
- Stable performance over Operating Temperature Range

#### Applications

- Test and Measurement
- Commercial Communications
- SATCOM
- Military Communications
- Wireless Communications

#### Description

The PE2CP1148 is a high power 90 degree hybrid coupler that operates from 20 to 40 GHz and can handle 20 Watts (CW) with 12 dB isolation minimum and 1.8:1 VSWR maximum. The package interface uses 2.92mm Female connectors.

The PE2CP1148 is part of Pasternack's family of 90 degree hybrid couplers that offer excellent performance featuring high isolation, low insertion loss and VSWR while maintaining great amplitude/phase balance over the entire operating frequency range. They are available in both narrow and broad bandwidths and can be used in a wide variety of applications including signal sampling, phased array radar, and any application that requires even power distribution with a 90 degree difference in phase.

#### Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Frequency Range	20		40	GHz
Impedance		50		Ohms
Phase Difference		90		Degrees
Coupling		3		dB
Insertion Loss		1.6	2	dB
Isolation	12	15		dB
VSWR		1.6:1	1.8:1	
Amplitude Balance		±0.5	±0.7	dB
Phase Balance		±6	±10	Degrees
Input Power (CW)			20	Watts
Input Power (Peak)			300	Watts

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [90 Degree 2.92mm Hybrid Coupler from 20 GHz to 40 GHz Rated to 20 Watts PE2CP1148](#)



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**Mechanical Specifications**

**Size**

Length	1 in [25.4 mm]
Width	0.43 in [10.92 mm]
Height	0.63 in [16 mm]
Weight	0.05 lbs [22.68 g]

**Configuration**

RF Connector Type	2.92mm Female
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**Environmental Specifications**

**Temperature**

Operating Range	-45 to +85 deg C
Storage Range	-55 to +125 deg C

Humidity

100% RH at 35°C, 95% RH at 40°C

Shock

20G for 11msec half sine wave, 3 axis both directions

Vibration

25gRMS (15 degrees 2KHz) endurance, 1 hour per axis

Altitude

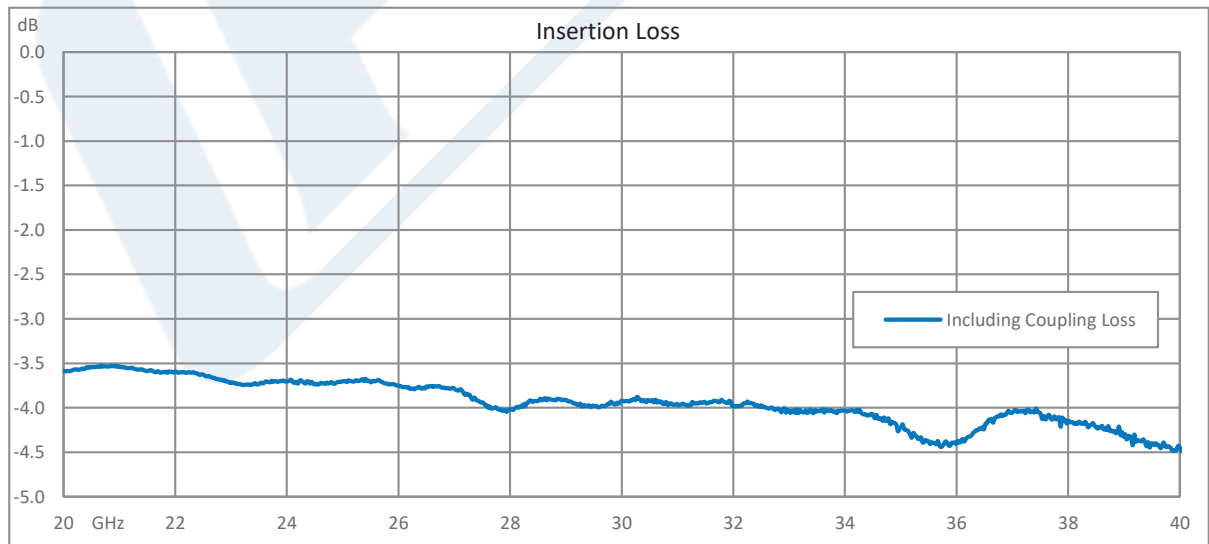
30,000 ft.

**Compliance Certifications** (see [product page](#) for current document)

**Plotted and Other Data**

Notes:

**Typical Performance Data**



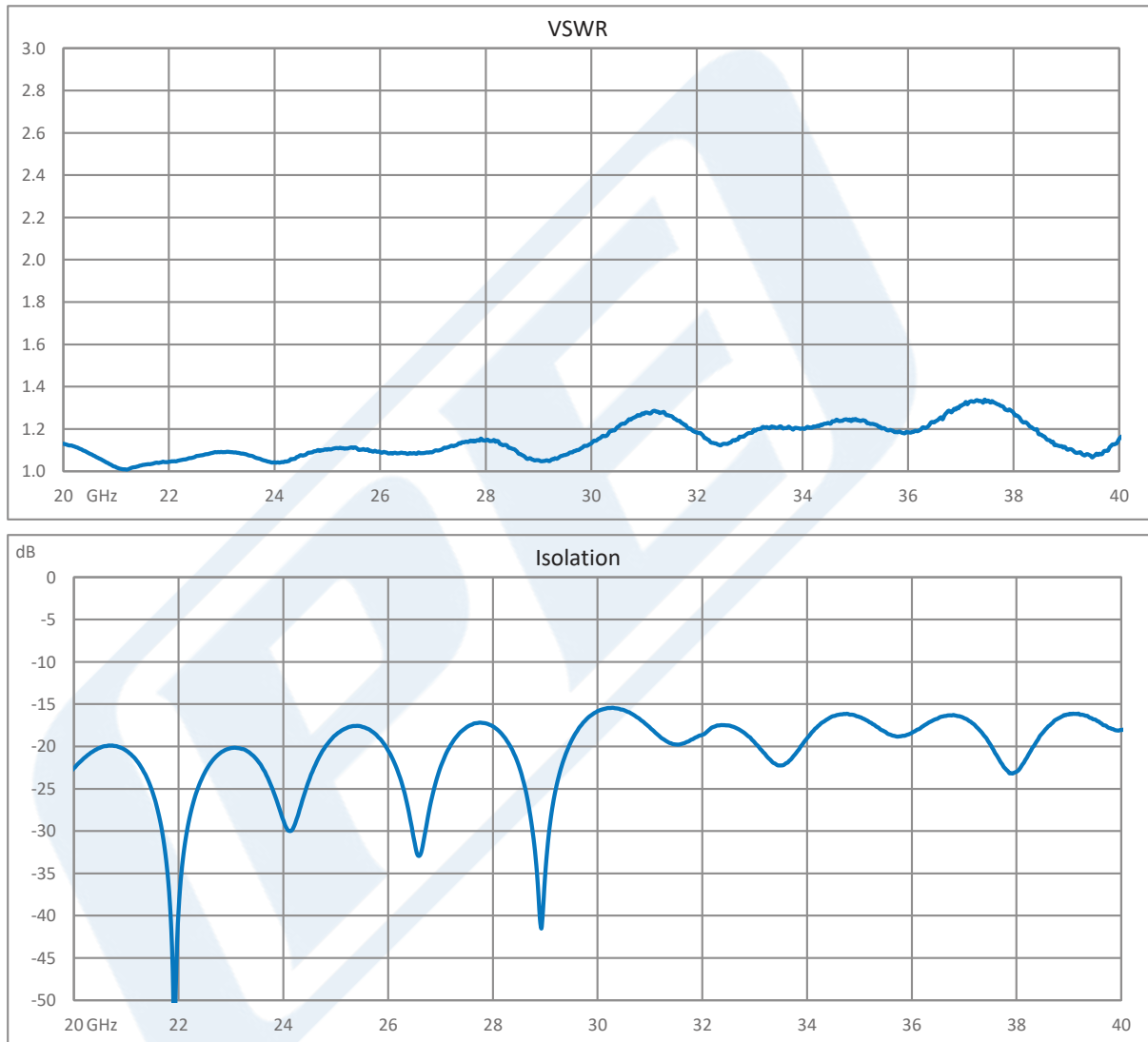
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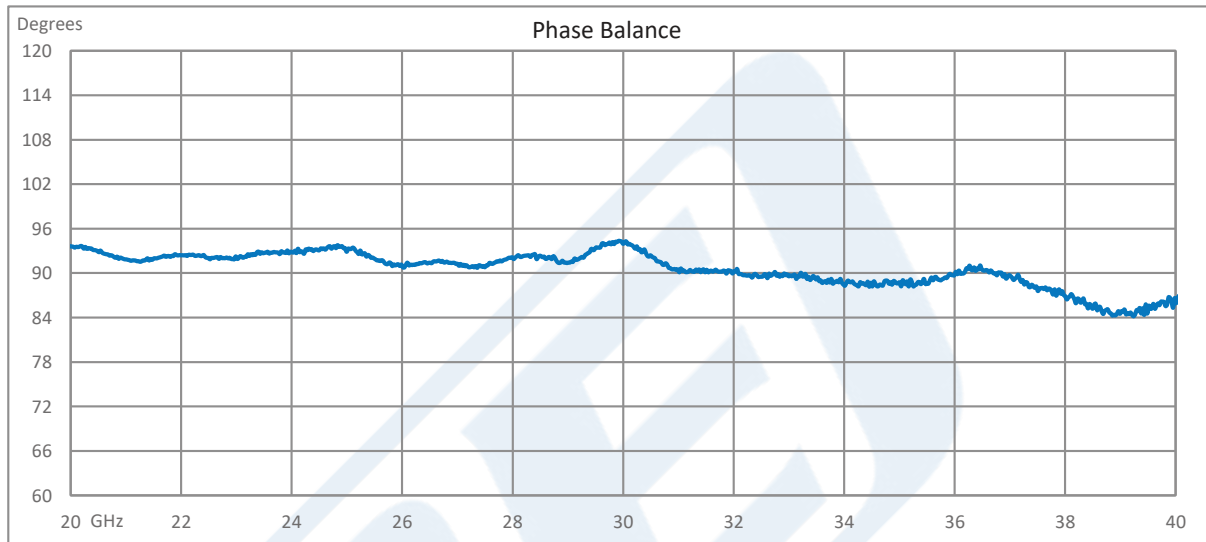
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90 Degree 2.92mm Hybrid Coupler from 20 GHz to 40 GHz Rated to 20 Watts from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part 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: [90 Degree 2.92mm Hybrid Coupler from 20 GHz to 40 GHz Rated to 20 Watts PE2CP1148](https://www.pasternack.com/2.92mm-coupler-40-ghz-pe2cp1148-p.aspx)

URL: <https://www.pasternack.com/2.92mm-coupler-40-ghz-pe2cp1148-p.aspx>

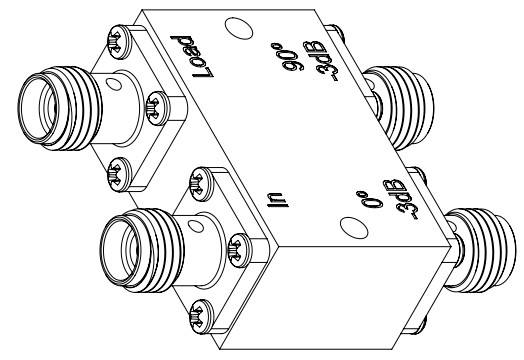
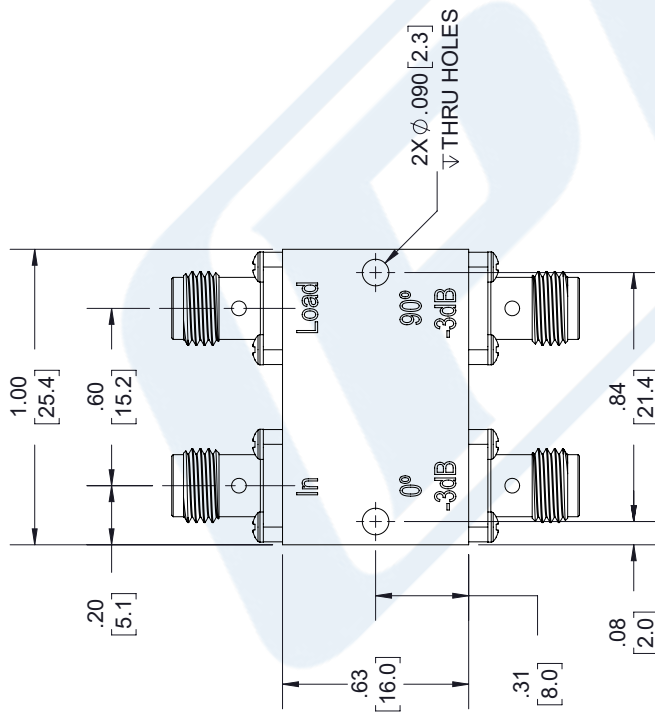
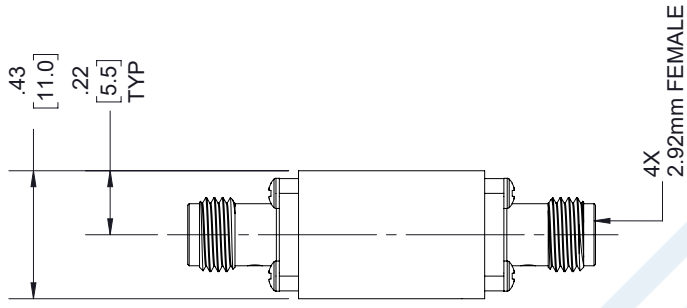
The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Pasternack reserves the right to make such 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.

# PE2CP1148 CAD Drawing

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REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	1/20/2020	S.PONG

### REVISIONS



PASTERNAK  
PE2CP1148  
D/C: YYWW

UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES DIMENSIONS IN [ ] ARE MILLIMETERS

TOLERANCES:

.X = ±.2	[5.08]	FRACTIONS	± 1/32
.XX = ±.02	[.51]	ANGLES ± 1°	
.XXX = ±.005	[.13]	CABLE LENGTH (L) TOLERANCES:	
		L ≤ 12 [305]	= +1 [25] / -0
		12 [305] < L ≤ 60 [1524]	= +2 [51] / -0
		60 [1524] < L ≤ 120 [3048]	= +4 [102] / -0
		120 [3048] < L ≤ 300 [7620]	= +6 [152] / -0
		300 [7620] < L = +5% / -0	

ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.

THIRD-ANGLE PROJECTION

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SCALE N/A

Pasternack Enterprises, Inc.  
P. O. Box 16759, Irvine, CA 92623.  
Phone: 1.949.261.1920 | 1.866.727.8376  
Fax: 1.949.261.7451  
Website: www.pasternack.com  
E-mail: sales@pasternack.com

SIZE	CAGE CODE	DRAWN BY	ITEM NO.
A	53919	K.DANG	PE2CP1148
REV	REV		A