



90 Degree SMA Hybrid Coupler from 1 GHz to 18 GHz Rated to 50 Watts

Hybrids Technical Data Sheet

PE2CP1144

Features

- 90° Phase Shift Between Output Ports
- High power handling of 50 Watts CW
- 1 to 18 GHz Frequency Range
- VSWR 1.4:1 Typical
- High Isolation of 15 dB Minimum
- Low 1.5 dB Insertion Loss Typical
- SMA Female Connectors
- Stable performance over Operating Temperature Range

Applications

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

Description

The PE2CP1144 is a high power 90 degree hybrid coupler that operates from 1 to 18 GHz and can handle 15 Watts (CW) with 15 dB isolation minimum and 1.6:1 VSWR maximum. The package interface uses SMA Female connectors.

The PE2CP1144 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	1		18	GHz
Impedance		50		Ohms
Phase Difference		90		Degrees
Coupling		3		dB
Insertion Loss		1.5		dB
Isolation	15			dB
VSWR		1.4:1	1.6:1	
Amplitude Balance		±0.6	±1.2	dB
Phase Balance			±12	Degrees
Input Power (CW)			50	Watts
Input Power (Peak)			500	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 SMA Hybrid Coupler from 1 GHz to 18 GHz Rated to 50 Watts PE2CP1144](#)



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Mechanical Specifications

Size

Length	2.23 in [56.64 mm]
Width	0.43 in [10.92 mm]
Height	0.98 in [24.89 mm]
Weight	0.13325 lbs [60.44 g]

Configuration

RF Connector Type	SMA 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

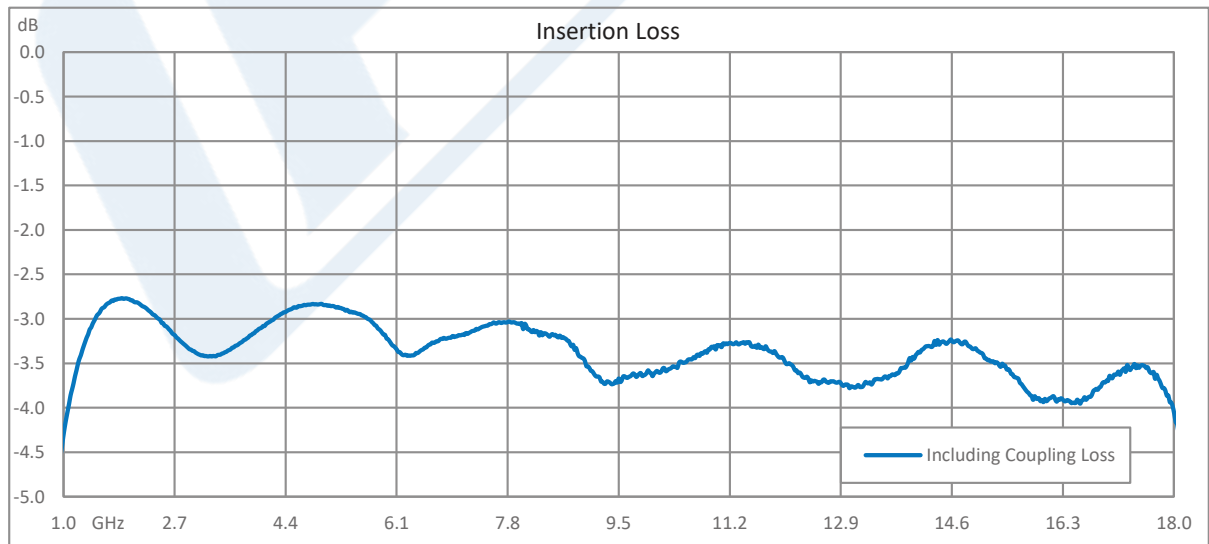
30,000 ft.

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

Plotted and Other Data

Notes:

Typical Performance Data



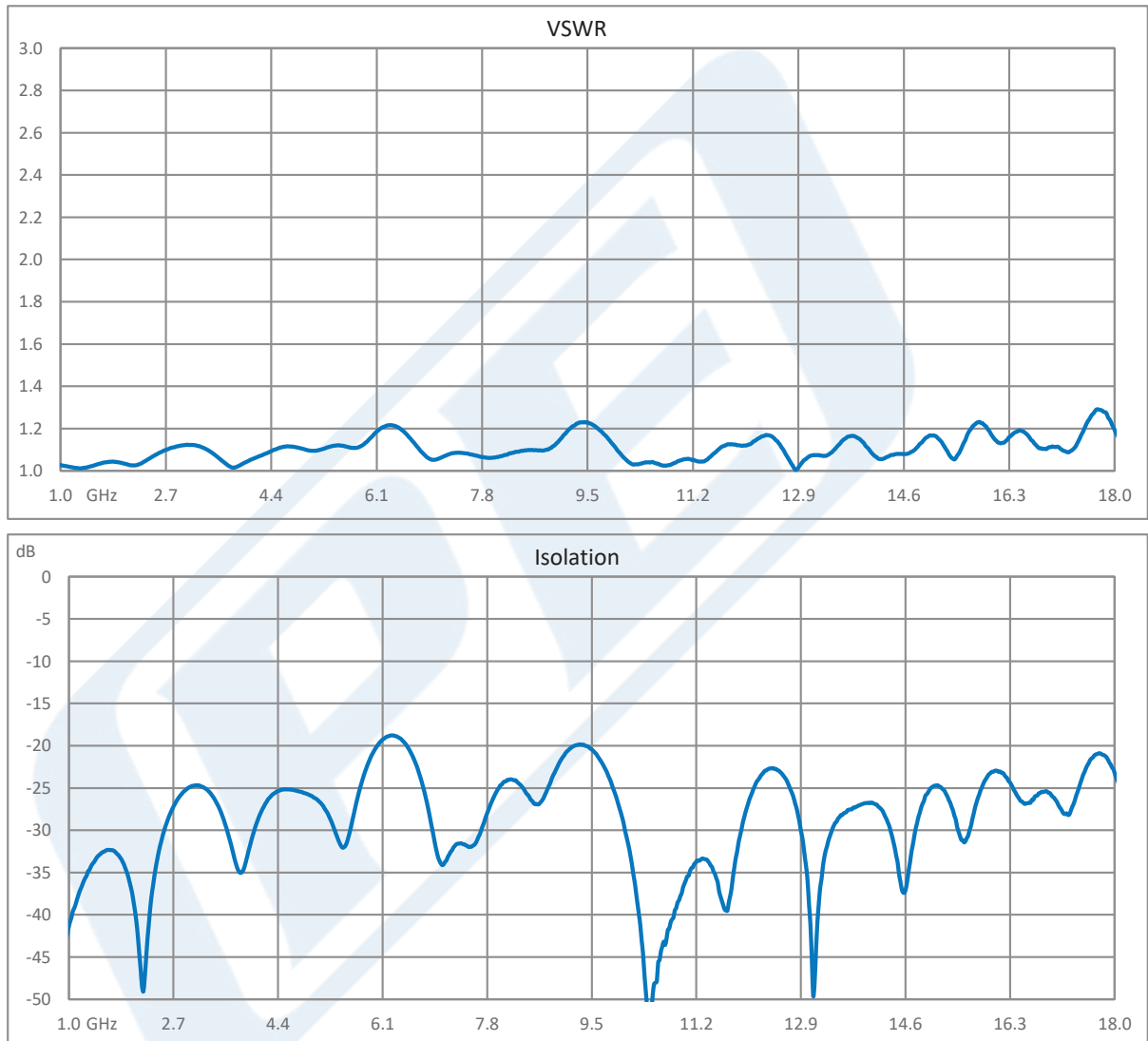
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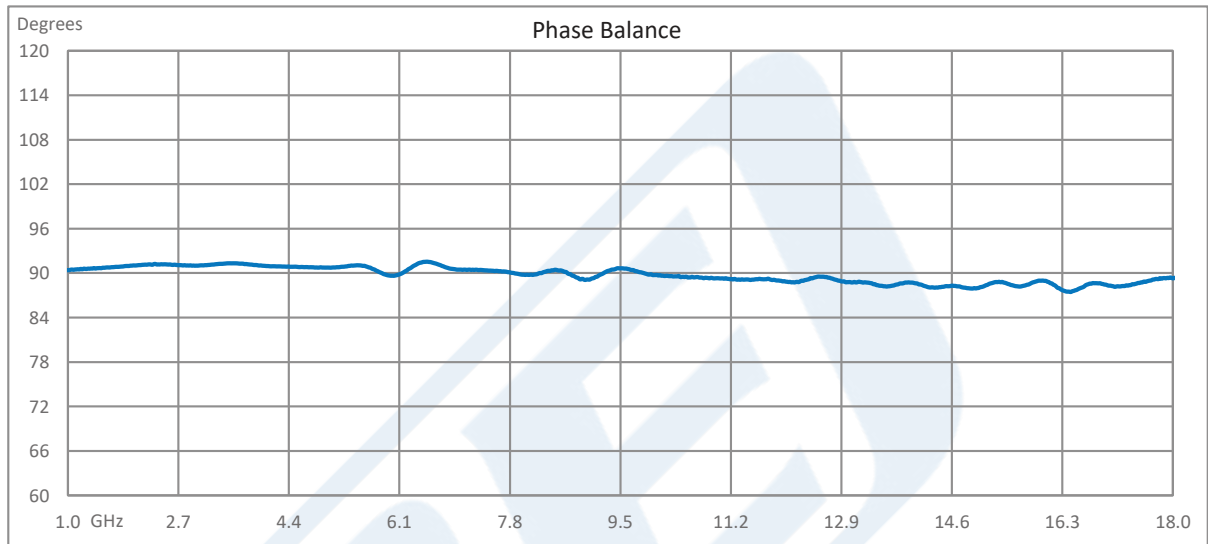
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90 Degree SMA Hybrid Coupler from 1 GHz to 18 GHz Rated to 50 Watts from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of 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 SMA Hybrid Coupler from 1 GHz to 18 GHz Rated to 50 Watts PE2CP1144](https://www.pasternack.com/sma-coupler-18-ghz-pe2cp1144-p.aspx)

URL: <https://www.pasternack.com/sma-coupler-18-ghz-pe2cp1144-p.aspx>

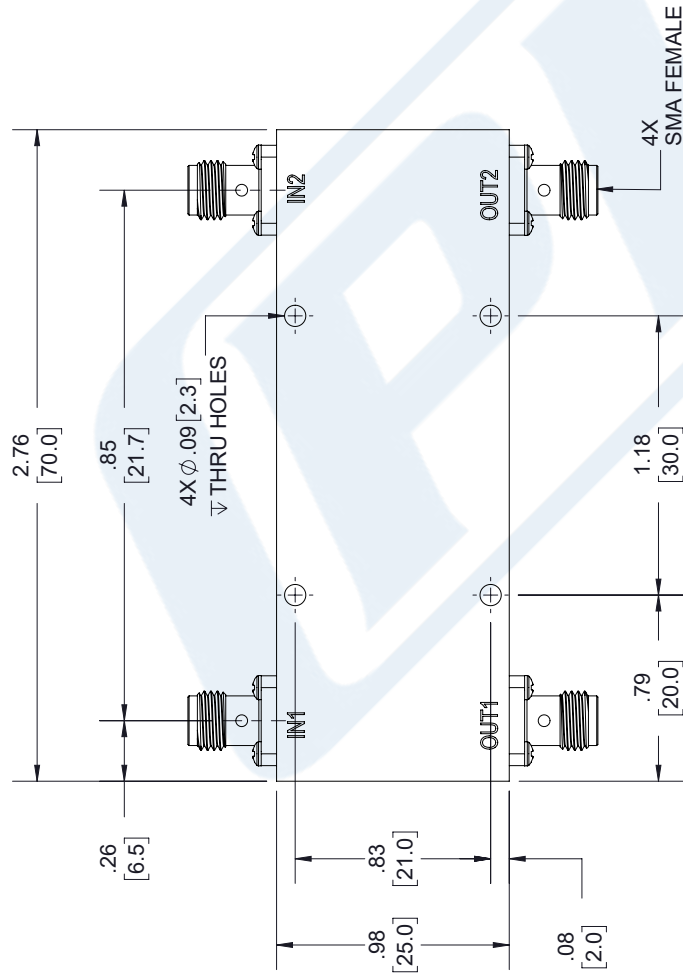
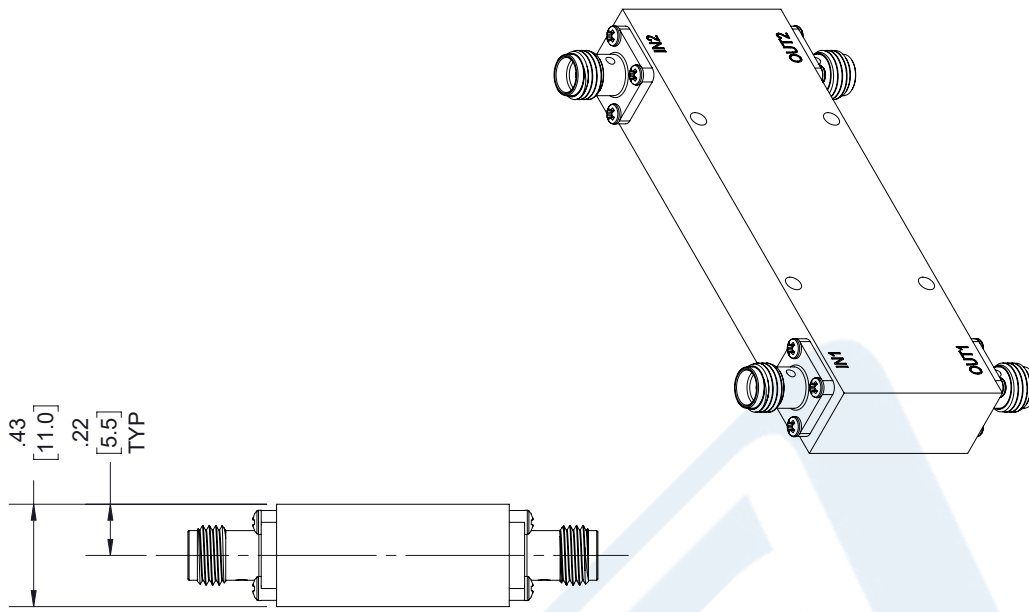
The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Pasternack reserves the right to make such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

PE2CP1144 CAD Drawing

90 Degree SMA Hybrid Coupler from 1 GHz to 18 GHz Rated to 50 Watts

REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	1/16/2020	S-PONG

REVISIONS



THIRD-ANGLE PROJECTION

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SHEET 1 OF 1

SCALE N/A

PE PASTERNAK
an INFINITO brand

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ITEM NO. PE2CP1144

SIZE A

CAGE CODE 53919

DRAWN BY K.DANG

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] ANGLES ± 1°

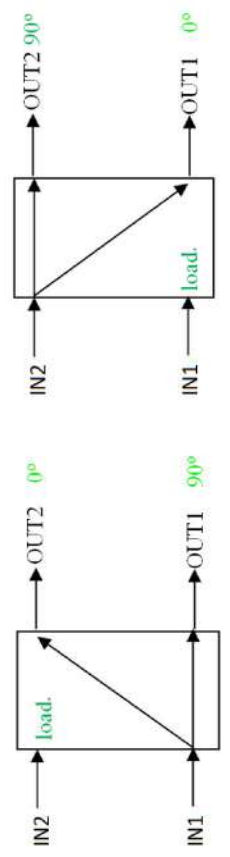
CABLE LENGTH (L) TOLERANCES:

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% / L / -0

ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.

PASTERNAK
PE2CP1144
D/C: YYWW

Schematic:



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