



Directional 20 dB SMA Coupler From 500 MHz to 3 GHz Rated to 50 Watts

Couplers Technical Data Sheet

PE2242-20

Features

- Directional Coupler
- 0.5 to 3 GHz Frequency Range
- Coupling 20 ± 1.5 dB
- Directivity > 18 dB
- VSWR < 1.3:1
- Max Power 50 Watts (CW)

Applications

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

Description

Directional couplers are indispensable components for isolating, separating and combining signals. For example, they provide a simple way of sampling microwave signals. They also can make accurate attenuator measurements since reflections are eliminated. The PE2242-20 is a 20 dB directional coupler that operates from 0.5 to 3 GHz and can handle up to 50 Watts (CW) with 18 dB directivity minimum and 1.3:1 VSWR maximum. The package interface uses SMA female connectors, and is also REACH and RoHS compliant.

The PE2242-20 is part of Pasternack's family of directional/dual-directional couplers that offer coupling ratios up to 50 dB with excellent performance featuring high directivity, low insertion loss and VSWR. They are available in both narrow and broad bandwidths and can be used in a wide variety of applications including signal sampling, VSWR measurements, power combining and distribution.

Electrical Specifications

| Description | Minimum | Typical | Maximum | Units |
|---------------------|---------|--------------|---------|-------|
| Frequency Range | 0.5 | | 3 | GHz |
| Impedance | | 50 | | Ohms |
| Coupling | | 20 ± 1.5 | | dB |
| Insertion Loss | | | 0.5 | dB |
| Directivity | 18 | | | dB |
| Main Line VSWR | | | 1.3:1 | |
| Secondary Line VSWR | | | 1.3:1 | |
| Input Power (CW) | | | 50 | Watts |

Electrical Specification Notes:
Values at 25°C, sea level.

Mechanical Specifications

| | |
|-------------|---------------------|
| Size | |
| Length | 4.72 in [119.89 mm] |
| Width/Dia. | 0.4 in [10.16 mm] |
| Height | 1.18 in [29.97 mm] |

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [Directional 20 dB SMA Coupler From 500 MHz to 3 GHz Rated to 50 Watts PE2242-20](#)



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| | |
|------------------------------|----------------------|
| Weight | 0.244 lbs [110.68 g] |
| Finish | Gray |
| Housing Material and Plating | Aluminum |

Configuration

| | |
|--------------------|---------------|
| Package Type | Connectorized |
| Input Connector | SMA Female |
| Output Connector | SMA Female |
| Coupled Connectors | SMA Female |

Environmental Specifications

Temperature

| | |
|-----------------|------------------|
| Operating Range | -30 to +85 deg C |
|-----------------|------------------|

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

Plotted and Other Data

Notes:

Directional 20 dB SMA Coupler From 500 MHz to 3 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.

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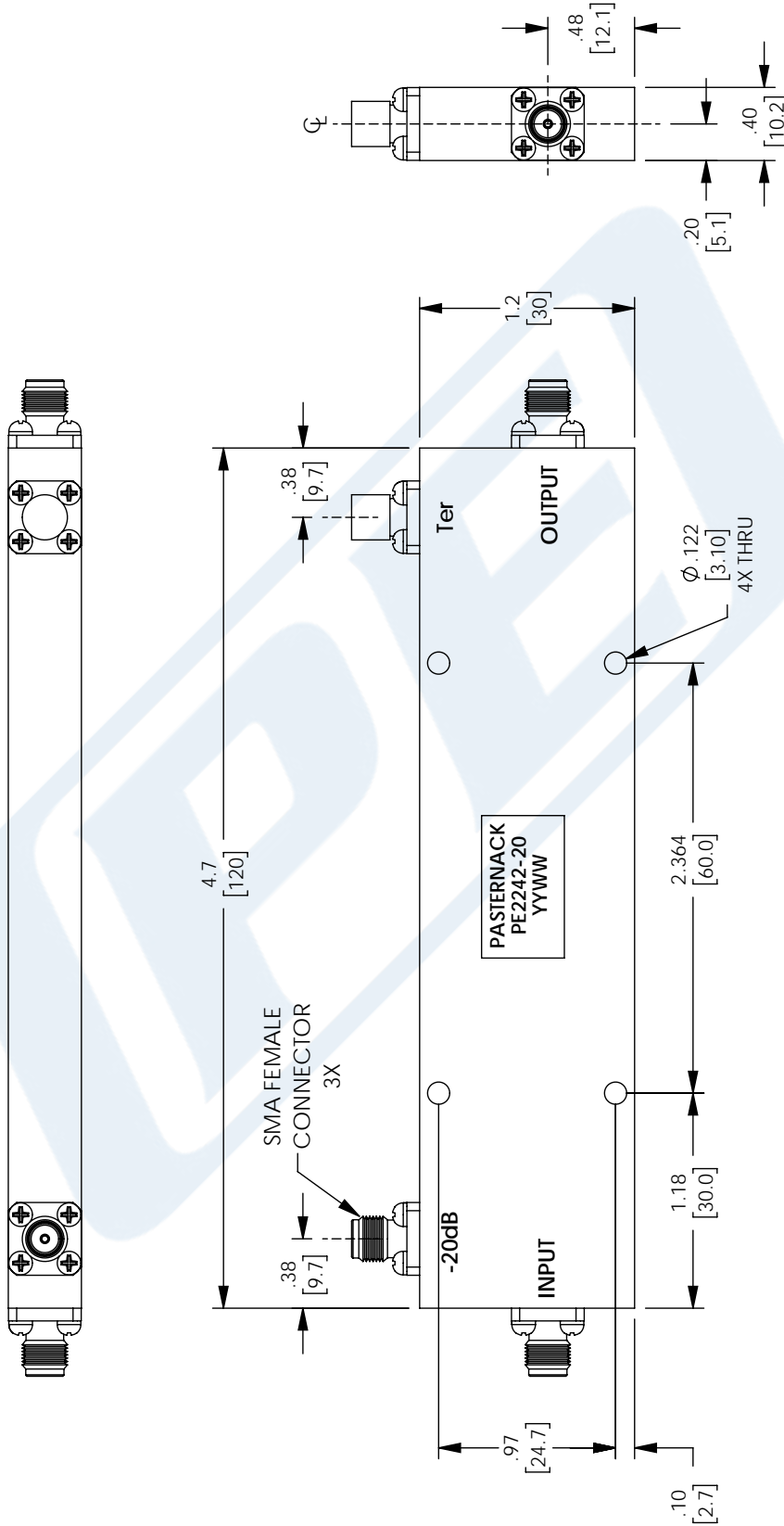
URL: <https://www.pasternack.com/directional-20-db-sma-coupler-500-mhz-3-ghz-50-watts-pe2242-20-p.aspx>

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.

PE2242-20 CAD Drawing

Directional 20 dB SMA Coupler From 500 MHz to 3 GHz Rated to 50 Watts

| REVISIONS | | | |
|-----------|-----------------|------------|----------|
| REV. | DESCRIPTION | DATE | APPROVED |
| A | INITIAL RELEASE | 08/17/2021 | SPONG |



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% L / -0 |

ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.

THIRD-ANGLE PROJECTION

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SCALE N/A

REV A

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ITEM NO. PE2242-20

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