



Circulator with 13 dB Isolation from 22 GHz to 33 GHz, 10 Watts and 2.92mm Female

Circulators Technical Data Sheet

PE83CR1028

Features

- Forward/Reverse Power 10 watts
- Wide-Band Operating Frequency Range of 22 to 33 GHz
- Female 2.92mm Connectors
- Low VSWR of 1.70:1 Max
- Low Insertion Loss of 1.7 dB
- Good Isolation Performance of 13 dB Minimum

Applications

- Radar Systems
- Military
- Wireless Radio Systems
- Telecom Infrastructure
- Communication Systems
- R&D Labs
- Microwave Radio Systems

Description

The PE83CR1028 is an RF circulator offering a forward and reverse power rating of 10 watts over an operational frequency band of 22 to 33 GHz. This coaxial part uses 2.92mm female connectors on all ports and has a minimum of 13 dB of isolation.

Pasternack offers a wide variety of circulators to fit your needs. These unique devices enable two signals to use one channel. The classic use of this three port device is for the line/coax between an antenna and a transceiver, allowing the receive signal to come from the antenna (port 1) to the receiver (port 2) while the transmit signal goes from the transmitter (port 3) to the antenna (port 1). An circulator can be created by terminating one port into a matched load. These components can be used in antenna transmitting and receiving, radar, amplifier systems and anything that requires isolation from a signal reflection and the ability to send signals in opposite directions down a single channel. These circulators feature excellent insertion loss, high isolation and reliability.

Electrical Specifications

| Description | Minimum | Typical | Maximum | Units |
|-------------------|---------|---------|---------|-------|
| Frequency Range | 22 | | 33 | GHz |
| Impedance | | 50 | | Ohms |
| Insertion Loss | | | 1.7 | dB |
| Isolation | 13 | | | dB |
| VSWR | | | 1.7:1 | |
| Forward Power, CW | | | 10 | Watts |

Mechanical Specifications

| | |
|---------------------------|---------------------|
| Size | |
| Length | 0.98 in [24.89 mm] |
| Width | 0.91 in [23.11 mm] |
| Height | 0.66 in [16.76 mm] |
| Weight | 0.066 lbs [29.94 g] |
| Body Material and Plating | Copper, Nickel |

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [Circulator with 13 dB Isolation from 22 GHz to 33 GHz, 10 Watts and 2.92mm Female PE83CR1028](#)



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Configuration

| | |
|-------------|-----------------|
| Design | Single Junction |
| Direction | Clockwise |
| Connector 1 | 2.92mm Female |
| Connector 2 | 2.92mm Female |
| Connector 3 | 2.92mm Female |

Environmental Specifications

Temperature

| | |
|-----------------|------------------|
| Operating Range | -40 to +85 deg C |
| Storage Range | -40 to +85 deg C |

| | |
|-----------|--|
| Humidity | 100% RH at 35c |
| Shock | 20G for 11msec |
| Vibration | 25g RMS |
| Altitude | 30,000 ft. (Epoxy Sealed Controlled environment) |

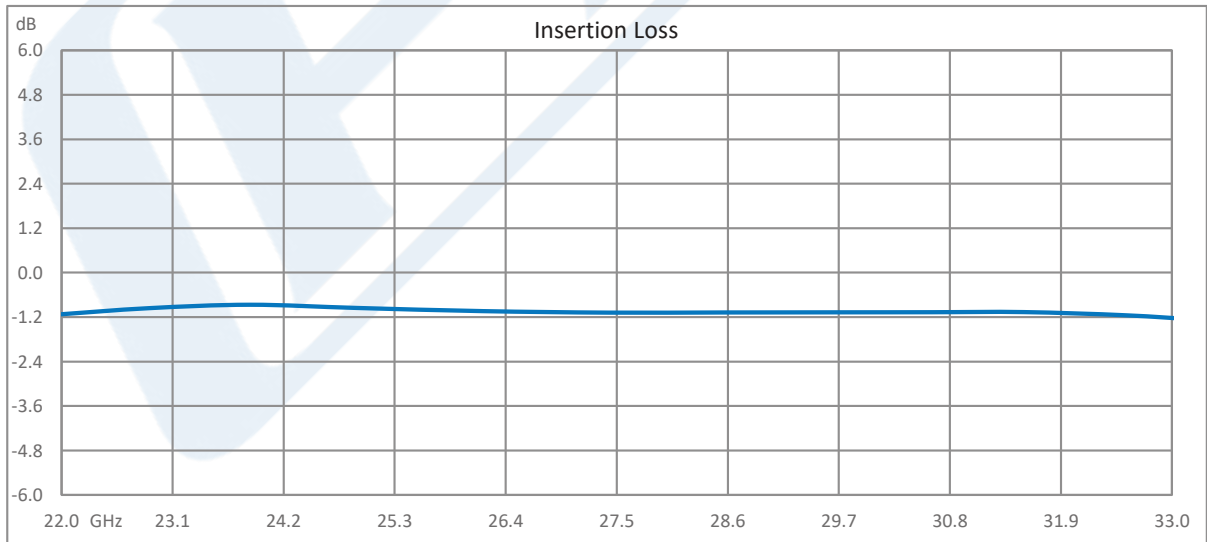
Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

Notes:

- Values at 25°C, sea level.

Typical Performance Data



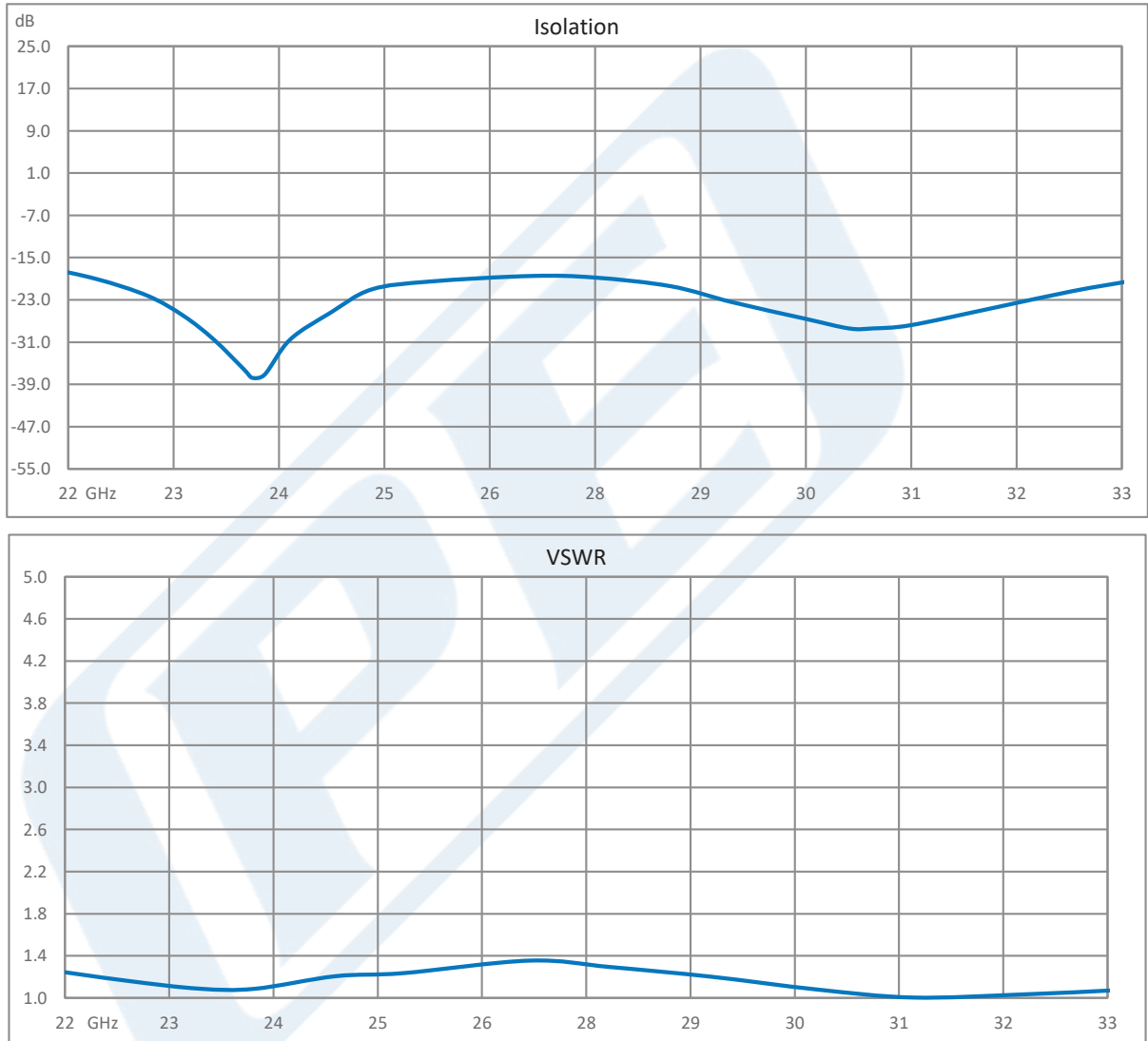
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Circulator with 13 dB Isolation from 22 GHz to 33 GHz, 10 Watts and 2.92mm Female from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability 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: [Circulator with 13 dB Isolation from 22 GHz to 33 GHz, 10 Watts and 2.92mm Female PE83CR1028](https://www.pasternack.com/circulator-13db-isolation-33-ghz-10-watts-2.92mm-female-pe83cr1028-p.aspx)

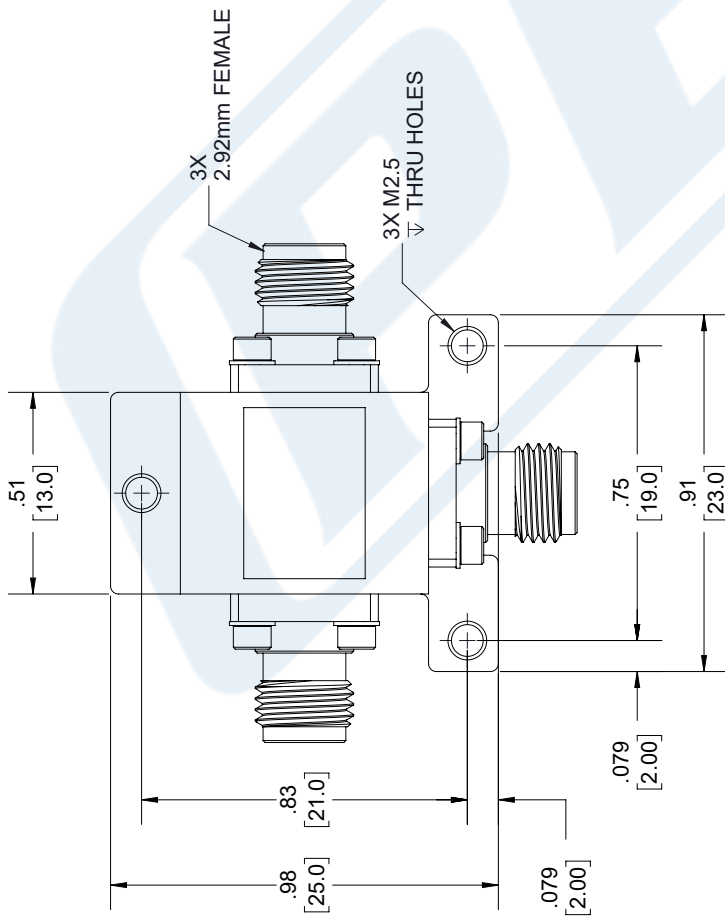
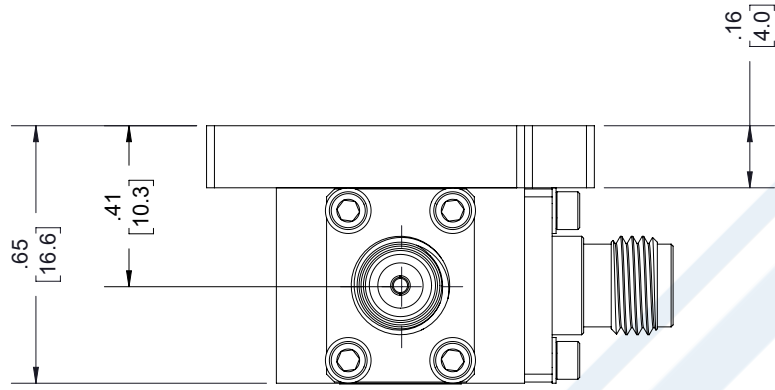
URL: <https://www.pasternack.com/circulator-13db-isolation-33-ghz-10-watts-2.92mm-female-pe83cr1028-p.aspx>

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.

PE83CR1028 CAD Drawing

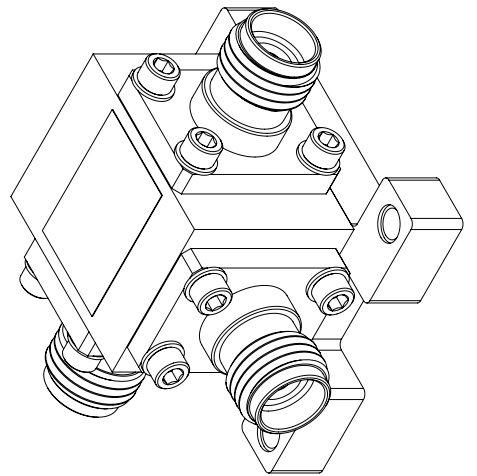
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| REVISIONS | | | |
|-----------|----------------|-----------|----------|
| REV. | DESCRIPTION | DATE | APPROVED |
| B | PCR PE83CR1028 | 8/10/2021 | S.PONG |



3X 2.92mm FEMALE

3X M2.5 THRU HOLES



LABEL

PASTERNAK

PE83CR1028

D/C: WWYY

1

2

3

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

TOLERANCES:

.X = ± .2 [5.08] FRACTIONS ± 1/32

.XX = ± .02 [.51] ± .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% / -0

ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.



THIRD-ANGLE PROJECTION
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SCALE N/A



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SIZE A

CAGE CODE 53919

DRAWN BY K.DANG

ITEM NO PE83CR1028

REV B