



Dual Junction Circulator with 34 dB Isolation from 18 GHz to 26.5 GHz, 5 Watts and SMA Female

Circulators Technical Data Sheet

PE83CR1025

Features

- Dual-Junction Circulator
- Frequency Range of 18 to 26.5 GHz
- Female SMA Connectors
- Low VSWR
- Forward and Reverse Power of 5 watts

Applications

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

Description

The PE83CR1025 is a dual junction circulator offering 34 dB minimum isolation over a frequency band of 18 to 26.5 GHz. This coaxial part uses SMA female connectors on all ports and has a power rating of 5 watts in the forward and reverse direction.

Pasternack offers a wide variety of circulators to fit your needs. These unique devices enable two signals to use a single channel. The classic use of a circulator (a three port device) is for the line/coax between the antenna and a transceiver, allowing the signal to come from the antenna to the receiver while the transmit signal goes from the transmitter to the antenna. As a dual junction device, this is essentially two circulators in one package and has four ports. This allows for roughly twice the isolation of a standard circulator. By terminating one of the four ports (using a 50 ohm load), it becomes a three port device and can be connected as a standard circulator. An isolator can be created by terminating another port, creating a two port device. These devices 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 | 18 | | 26.5 | GHz |
| Impedance | | 50 | | Ohms |
| Insertion Loss | | | 1.2 | dB |
| Dual Junction Isolation (ports 2-1, 4-3) | 34 | | | dB |
| Single Junction Isolation (ports 1-4, 3-2) | 15 | | | dB |
| VSWR | | | 1.4:1 | |
| Forward Power, CW | | | 5 | Watts |
| Forward Power, Peak | | | 20 | Watts |
| Reverse Power, CW | | | 5 | Watts |

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

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [Dual Junction Circulator with 34 dB Isolation from 18 GHz to 26.5 GHz, 5 Watts and SMA Female PE83CR1025](#)



Dual Junction Circulator with 34 dB Isolation from
18 GHz to 26.5 GHz, 5 Watts and SMA Female

Circulators Technical Data Sheet

PE83CR1025

Mechanical Specifications

Size

| | |
|--------|--------------------|
| Length | 1 in [25.4 mm] |
| Width | 0.5 in [12.7 mm] |
| Height | 0.67 in [17.02 mm] |
| Weight | 0.08 lbs [36.29 g] |

Configuration

| | |
|---------------|---------------|
| Design | Dual Junction |
| Direction | Clockwise |
| Package Style | Connectorized |
| Connector 1 | SMA Female |
| Connector 2 | SMA Female |
| Connector 3 | SMA Female |
| Connector 4 | SMA Female |

Environmental Specifications

Temperature

| | |
|-----------------|----------------|
| Operating Range | 0 to +25 deg C |
|-----------------|----------------|

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

Plotted and Other Data

Notes:

- Values at 25°C, sea level.

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [Dual Junction Circulator with 34 dB Isolation from 18 GHz to 26.5 GHz, 5 Watts and SMA Female PE83CR1025](#)

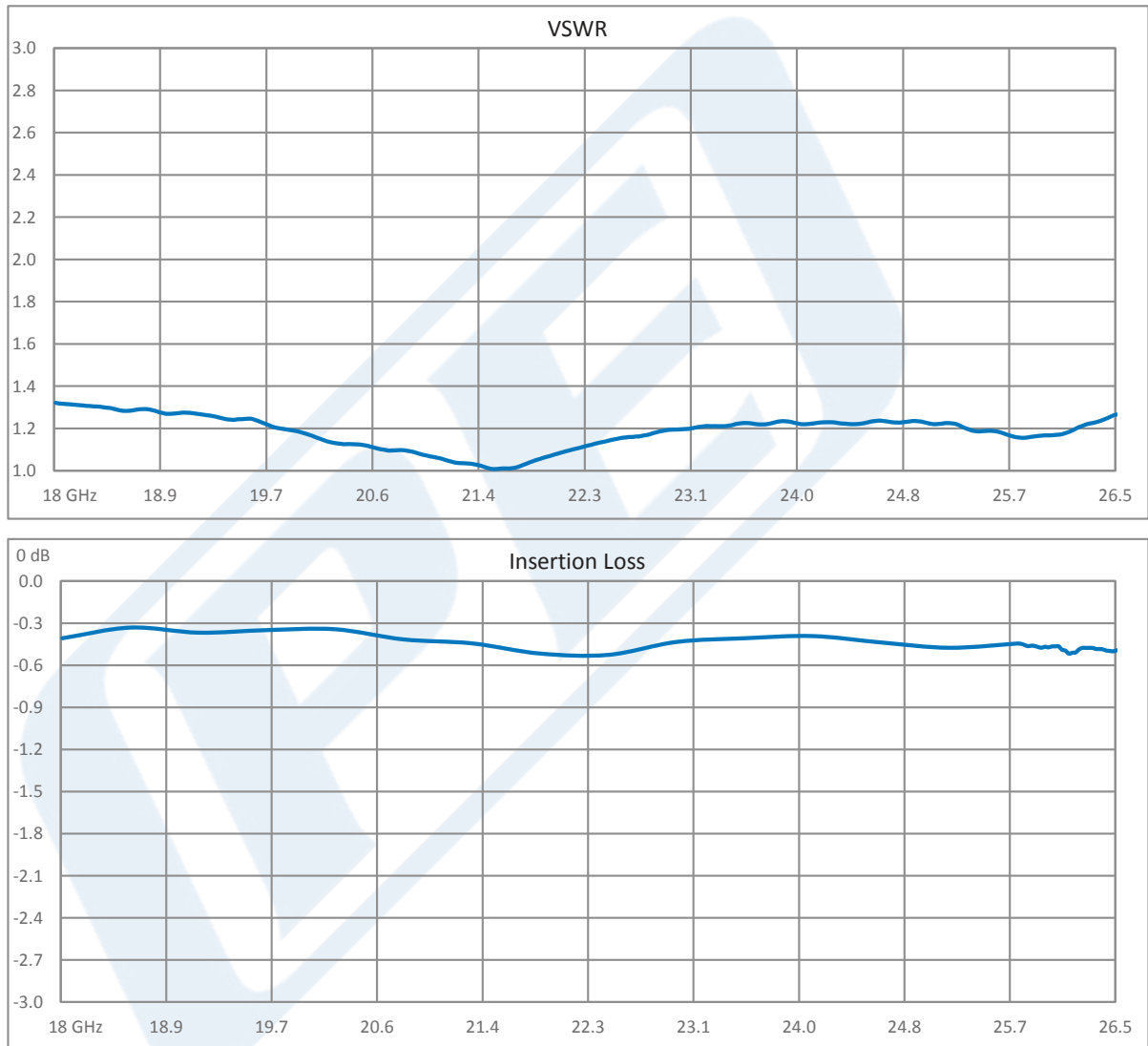


Dual Junction Circulator with 34 dB Isolation from 18 GHz to 26.5 GHz, 5 Watts and SMA Female

Circulators Technical Data Sheet

PE83CR1025

Typical Performance Data



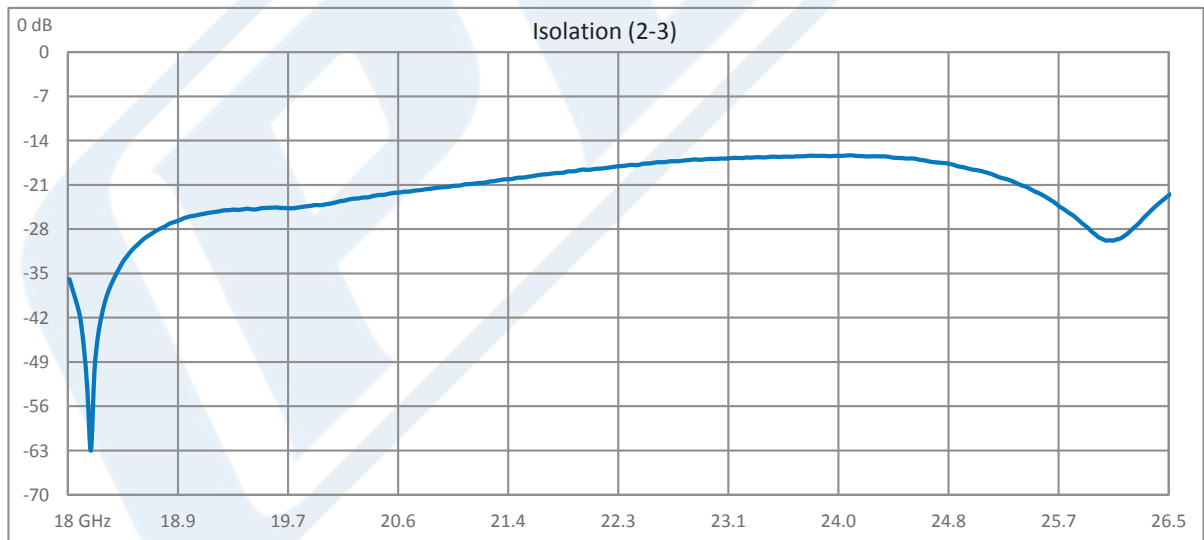
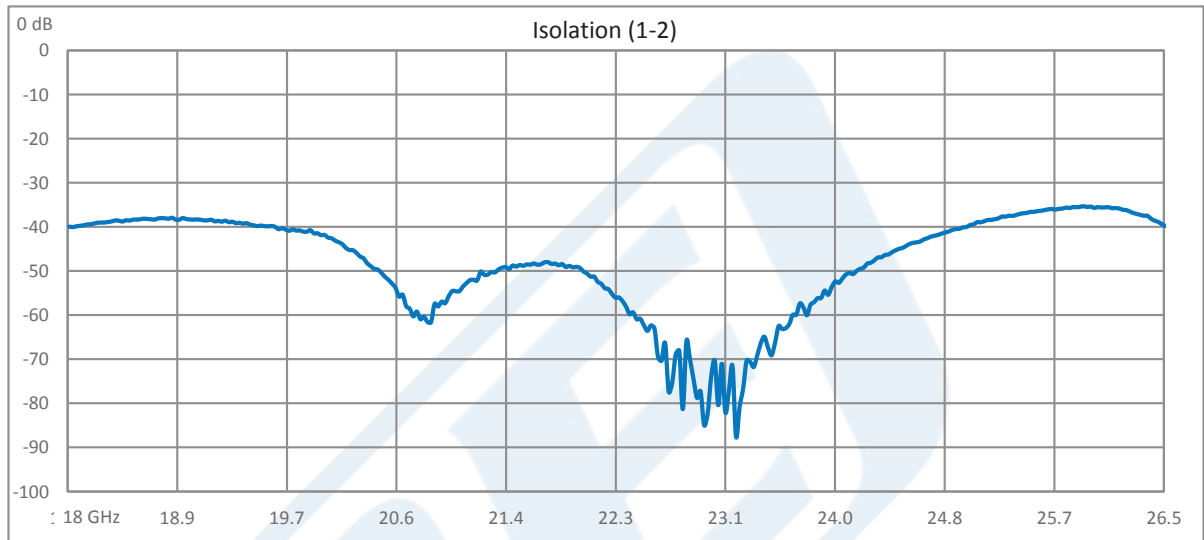
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [Dual Junction Circulator with 34 dB Isolation from 18 GHz to 26.5 GHz, 5 Watts and SMA Female PE83CR1025](#)



Dual Junction Circulator with 34 dB Isolation from 18 GHz to 26.5 GHz, 5 Watts and SMA Female

Circulators Technical Data Sheet

PE83CR1025



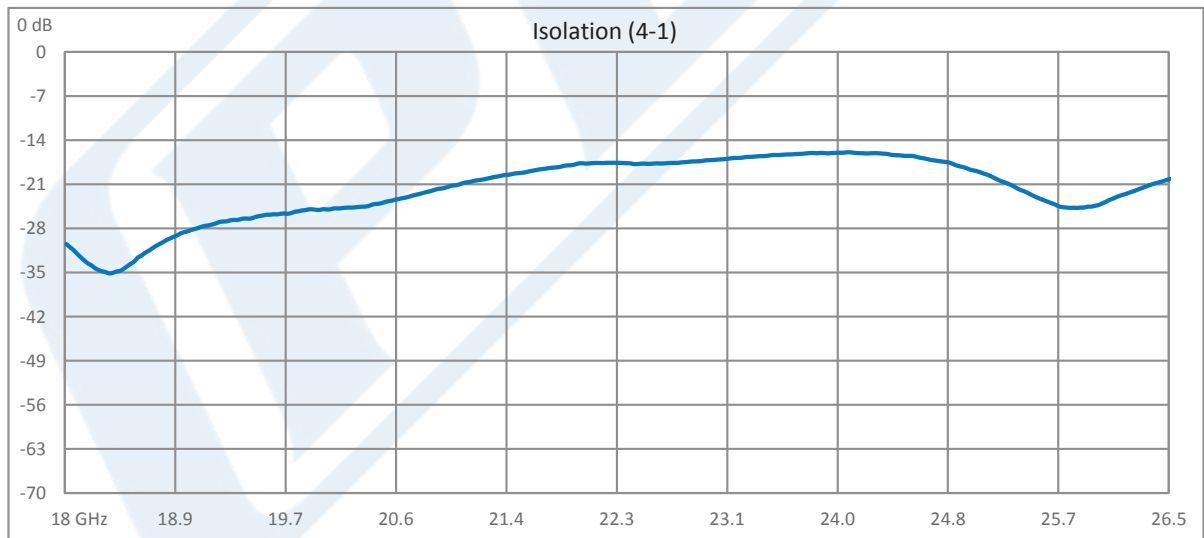
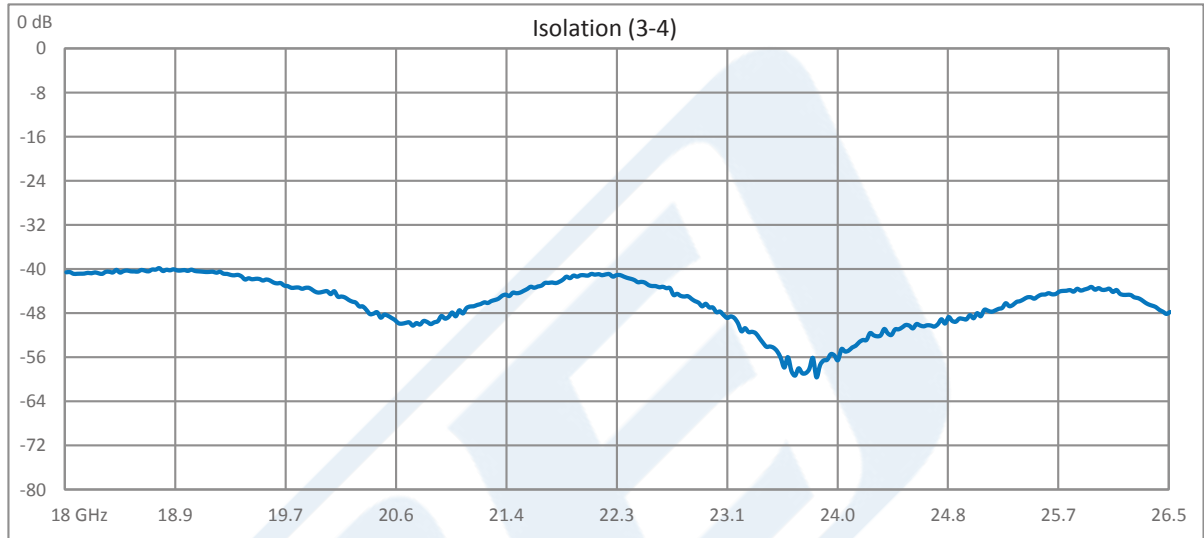
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [Dual Junction Circulator with 34 dB Isolation from 18 GHz to 26.5 GHz, 5 Watts and SMA Female PE83CR1025](#)



Dual Junction Circulator with 34 dB Isolation from 18 GHz to 26.5 GHz, 5 Watts and SMA Female

Circulators Technical Data Sheet

PE83CR1025



Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [Dual Junction Circulator with 34 dB Isolation from 18 GHz to 26.5 GHz, 5 Watts and SMA Female PE83CR1025](#)



Dual Junction Circulator with 34 dB Isolation from 18 GHz to 26.5 GHz, 5 Watts and SMA Female

Circulators Technical Data Sheet

PE83CR1025

Dual Junction Circulator with 34 dB Isolation from 18 GHz to 26.5 GHz, 5 Watts and SMA 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: [Dual Junction Circulator with 34 dB Isolation from 18 GHz to 26.5 GHz, 5 Watts and SMA Female PE83CR1025](https://www.pasternack.com/dual-junction-circulator-34db-isolation-26.5-ghz-5-watts-sma-female-pe83cr1025-p.aspx)

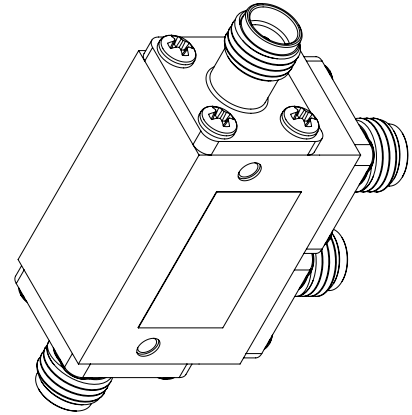
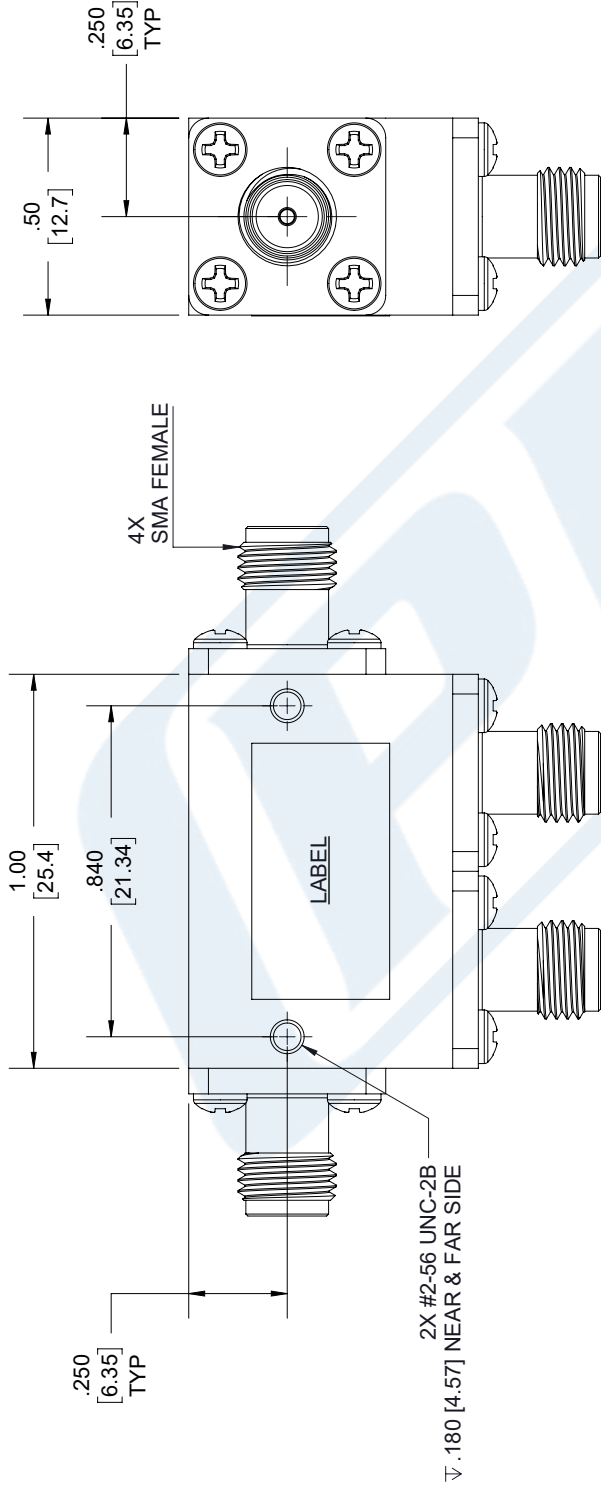
URL: <https://www.pasternack.com/dual-junction-circulator-34db-isolation-26.5-ghz-5-watts-sma-female-pe83cr1025-p.aspx>

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.

PE83CR1025 CAD Drawing

Dual Junction Circulator with 34 dB Isolation from 18 GHz to 26.5 GHz, 5 Watts and SMA Female

| REV. | DESCRIPTION | DATE | APPROVED |
|------|-----------------|----------|----------|
| A | INITIAL RELEASE | 3/6/2020 | S.PONG |



LABEL:

| | | |
|---|-----------------|---|
| 1 | PE83CR1025 | 2 |
| 3 | 18.0 - 26.5 GHz | 4 |
| | DC WWYY | |

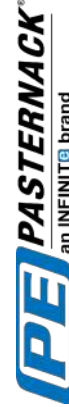
UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES DIMENSIONS IN [] ARE MILLIMETERS

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
 THE INFORMATION AND DESIGN IN THIS DOCUMENT IS THE PROPERTY OF PASTERNAK CORPORATION ALL RIGHTS RESERVED.

SHEET 1 OF 1
 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 | REV |
|------|-----------|----------|------------|-----|
| A | 53919 | K.DANG | PE83CR1025 | A |