



## Dual Junction Circulator With 40 dB Isolation From 7 GHz to 12.4 GHz, 5 Watts And N Female

### Circulators Technical Data Sheet

PE83CR1022

#### Features

- Dual-Junction Circulator
- Frequency Range of 7 to 12.4 GHz
- Female N 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 PE83CR1022 is a dual junction circulator offering 40 dB minimum isolation over a frequency band of 7 to 12.4 GHz. This coaxial part uses N 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	7		12.4	GHz
Impedance		50		Ohms
Insertion Loss			1.2	dB
Dual Junction Isolation (ports 2-1, 4-3)	40			dB
Single Junction Isolation (ports 1-4, 3-2)		18		dB
VSWR			1.3:1	
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 40 dB Isolation From 7 GHz to 12.4 GHz, 5 Watts And N Female PE83CR1022](#)



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### Mechanical Specifications

#### Size

Length	1.7 in [43.18 mm]
Width	0.75 in [19.05 mm]
Height	1 in [25.4 mm]
Weight	0.274 lbs [124.28 g]

#### Configuration

Design	Dual Junction
Package Style	Connectorized
Connector 1	N Female
Connector 2	N Female
Connector 3	N Female
Connector 4	N Female

### Environmental Specifications

#### Temperature

Operating Range	0 to +50 deg C
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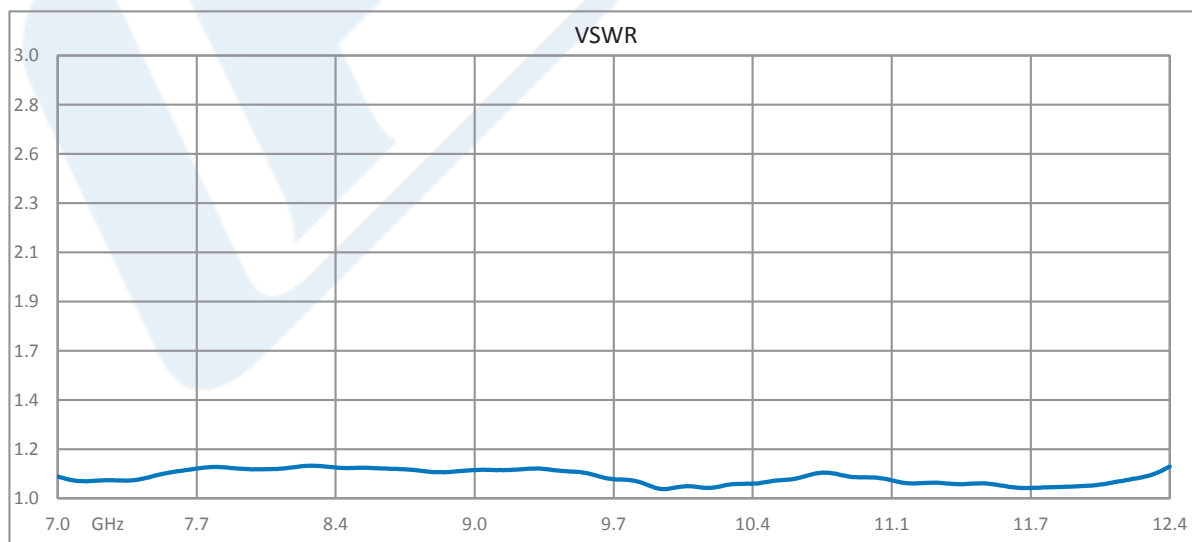
**Compliance Certifications** (see [product page](#) for current document)

### Plotted and Other Data

Notes:

- Values at 25°C, sea level.

#### Typical Performance Data



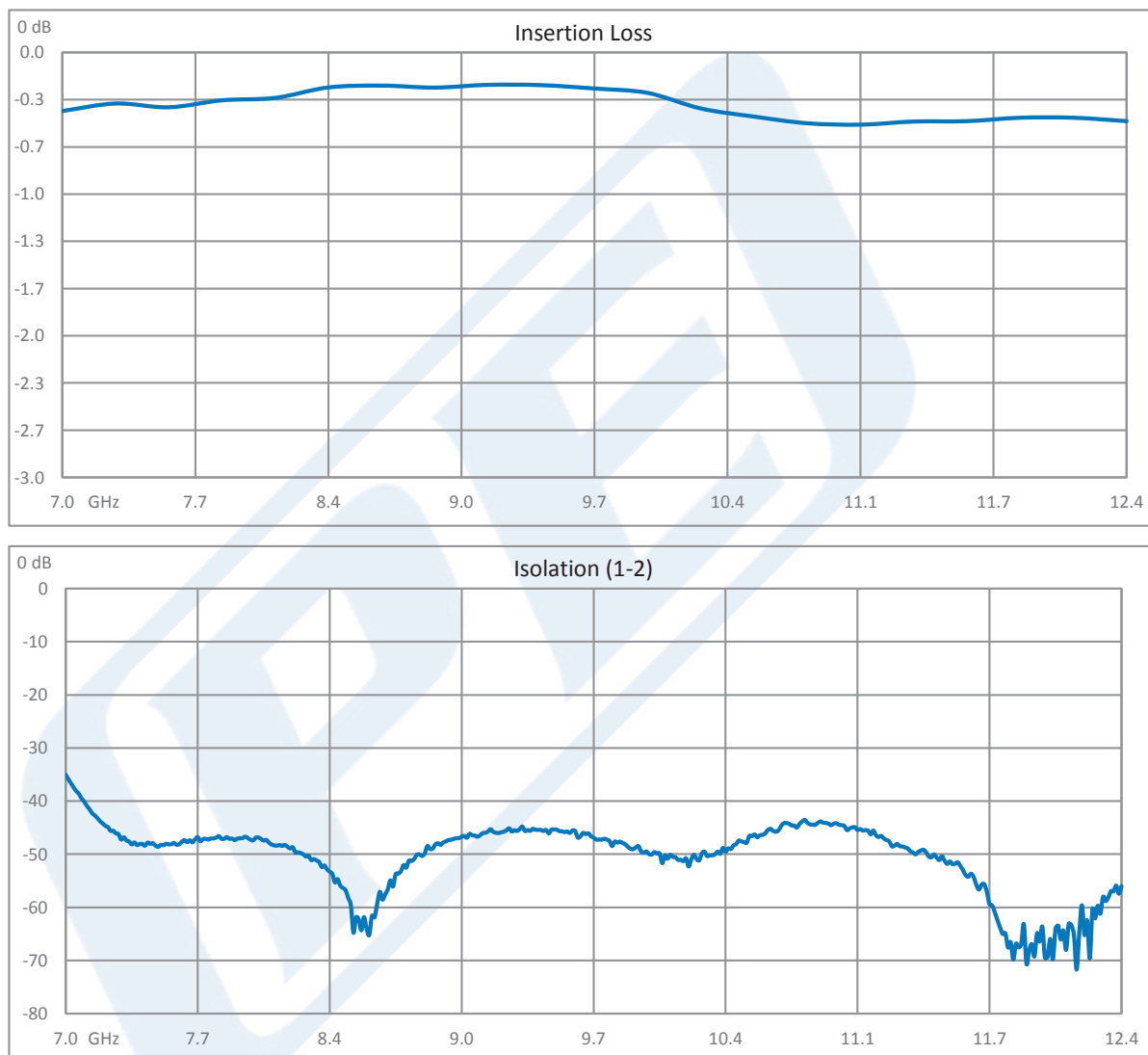
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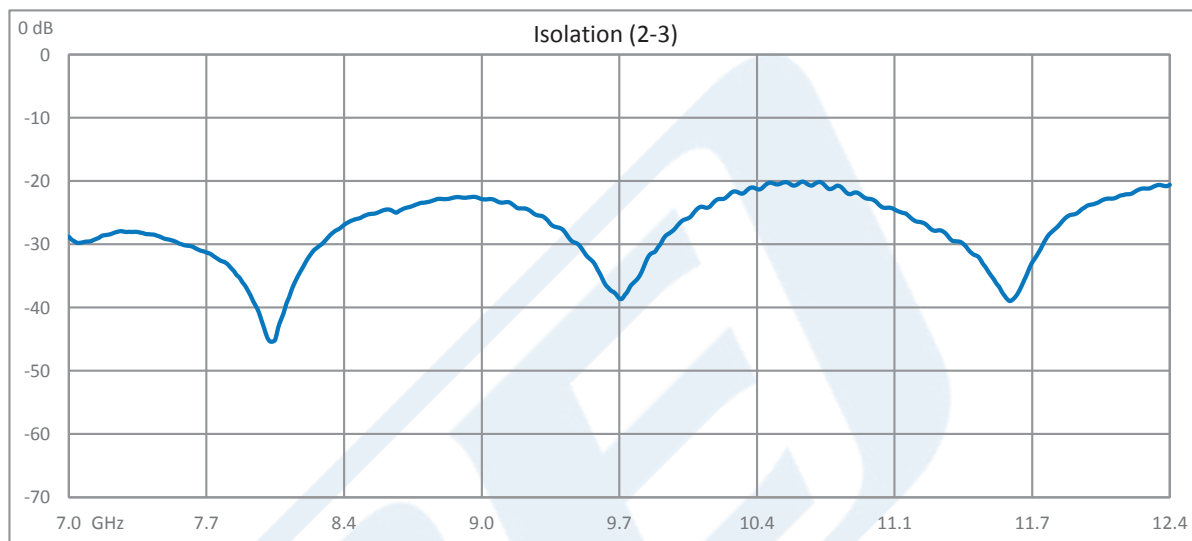
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Dual Junction Circulator With 40 dB Isolation From 7 GHz to 12.4 GHz, 5 Watts And N Female from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99% availability and are part of the broadest selection in the industry.

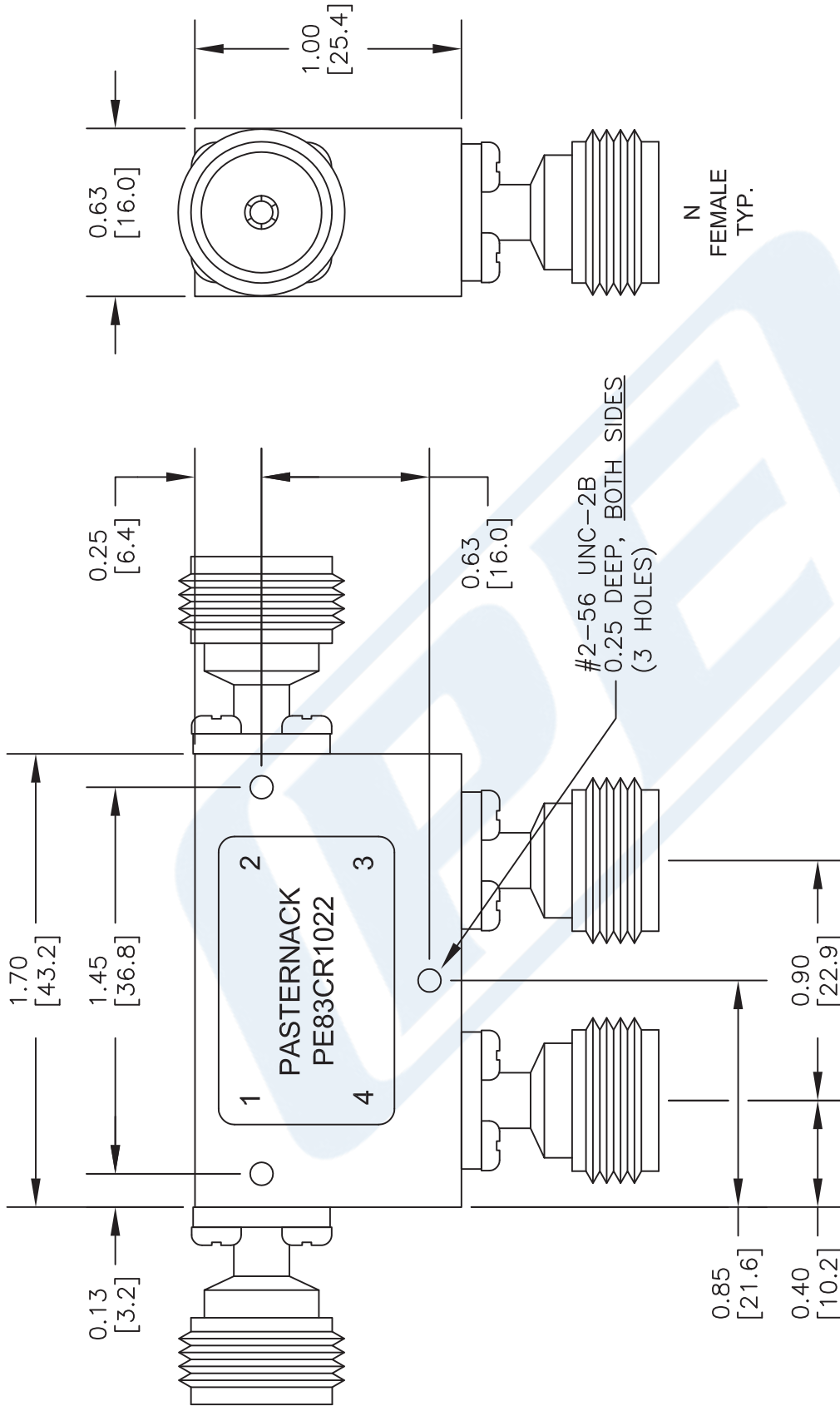
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The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements.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

# PE83CR1022 CAD Drawing

Dual Junction Circulator With 40 dB Isolation From  
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UNLESS OTHERWISE SPECIFIED DIMENSIONS  
ARE IN INCHES. TOLERANCES ARE:  
FRACTIONS DECIMALS ANGLES  
± 1/64 .XX ± .03 ± 1°  
.XXX ± .010

DWG TITLE

**PE83CR1022**

NOTES:  
1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.  
2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.  
3. DIMENSIONS ARE IN INCHES [mm].

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CAD FILE 110216

SCALE N/A

SIZE A

2233