



Circulator with 12 dB Isolation from 18 GHz to 26.5 GHz, 10 Watts and 2.92mm Female

Circulators Technical Data Sheet

PE83CR1027

Features

- Forward/Reverse Power 10 watts
- Wide-Band Operating Frequency Range of 18 to 26.5 GHz
- Female 2.92mm Connectors
- Low VSWR of 1.80:1 Max
- Low Insertion Loss of 1.7 dB
- Good Isolation Performance of 12 dB Minimum

Applications

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

Description

The PE83CR1027 is an RF circulator offering a forward and reverse power rating of 10 watts over an operational frequency band of 18 to 26.5 GHz. This coaxial part uses 2.92mm female connectors on all ports and has a minimum of 12 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	18		26.5	GHz
Impedance		50		Ohms
Insertion Loss			1.7	dB
Isolation	12			dB
VSWR			1.8:1	
Forward Power, CW			10	Watts

Mechanical Specifications

Size	
Length	0.99 in [25.15 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 12 dB Isolation from 18 GHz to 26.5 GHz, 10 Watts and 2.92mm Female PE83CR1027](#)



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Configuration

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

Environmental Specifications

Temperature

Operating Range	-40 to 80 deg C
Storage Range	-40 to 85 deg C

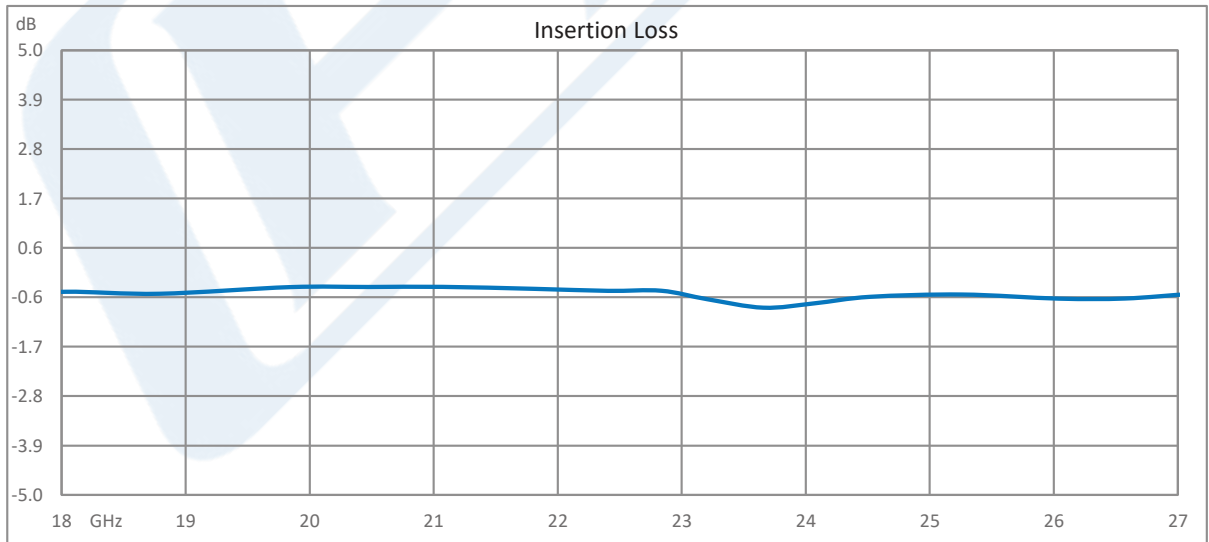
Humidity	100% RH at 35c
Shock	20G for 11msec
Vibration	25g RMS
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)

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

Plotted and Other Data

- Notes:
- Values at 25°C, sea level.

Typical Performance Data



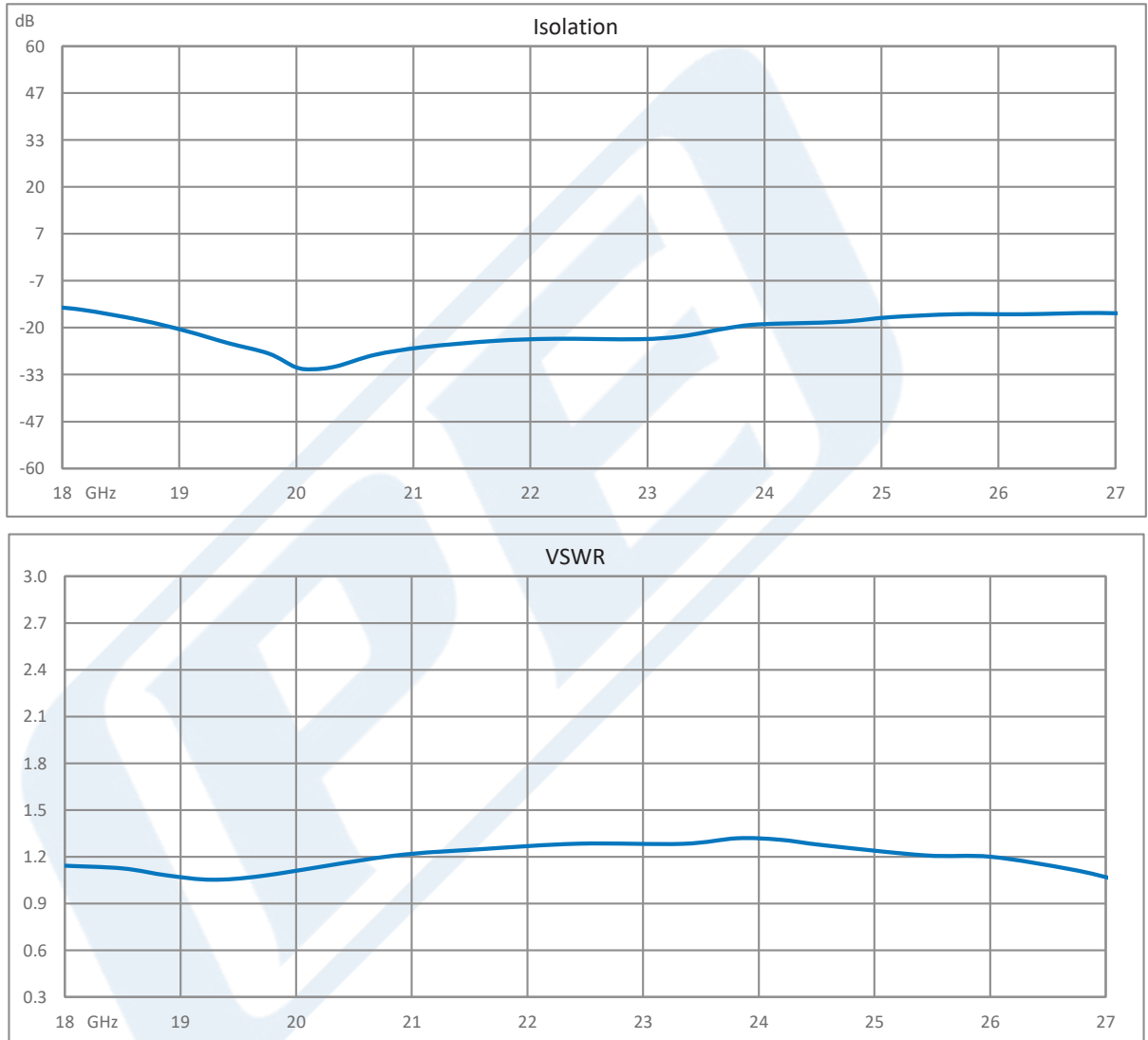
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Circulator with 12 dB Isolation from 18 GHz to 26.5 GHz, 10 Watts and 2.92mm Female from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability 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 12 dB Isolation from 18 GHz to 26.5 GHz, 10 Watts and 2.92mm Female PE83CR1027](https://www.pasternack.com/circulator-12db-isolation-26.5-ghz-10-watts-2.92mm-female-pe83cr1027-p.aspx)

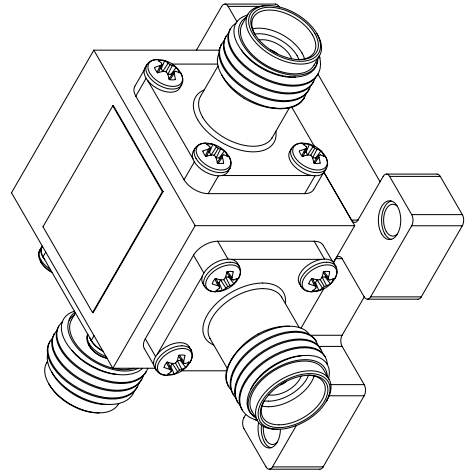
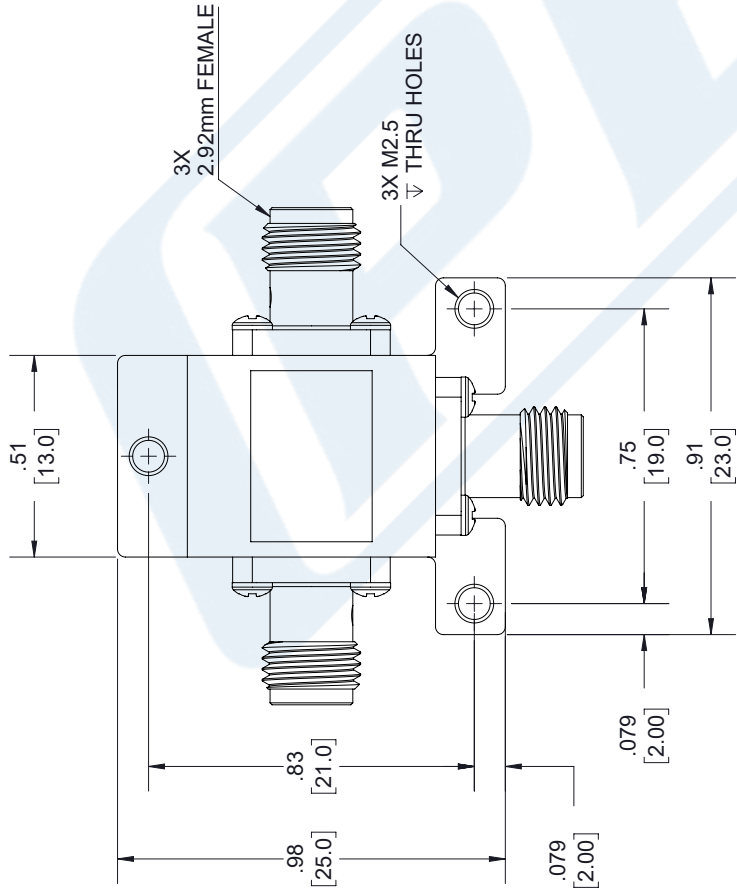
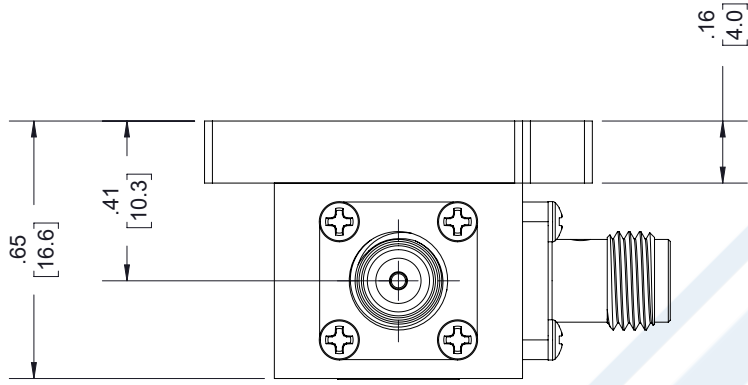
URL: <https://www.pasternack.com/circulator-12db-isolation-26.5-ghz-10-watts-2.92mm-female-pe83cr1027-p.aspx>

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PE83CR1027 CAD Drawing

Circulator with 12 dB Isolation from 18 GHz to 26.5 GHz, 10 Watts and 2.92mm Female

REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	3/12/2020	S.PONG



LABEL

2	PASTERNAK PE83CR1027 D/C: WWYY	1
		3

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% / -0
ALL DIMENSIONS SHOWN
ARE FOR REFERENCE ONLY.



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SCALE N/A



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SIZE	CAGE CODE	DRAWN BY	ITEM NO	REV
A	53919	K.DANG	PE83CR1027	A