



Circulator with 17 dB Isolation from 1.7 GHz to 2.4 GHz, 10 Watts and SMA Female

## Circulators Technical Data Sheet

PE83CR004

### Features

- Single Junction Circulator
- 1.7 to 2.4 GHz Frequency Range
- Max Forward Power 10W (CW)
- Insertion Loss < 0.75 dB
- VSWR < 1.3:1
- Isolation > 17 dB
- SMA Female Connectors

### Applications

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

### Description

Pasternack carries a broad selection of circulators to fit your needs. These unique devices allow two different direction signals to share the same channel. The classic use of this three port device is for routing signals between an antenna and a transceiver, allowing the receive signal to enter from the antenna (port 1) and exit to the receiver (port 2) while the transmit signal enters from the transmitter (port 3) and exits to the antenna (port 1). The circulator can also be used as an isolator by placing a matched load into one of the ports. These components can be used in antenna transmitting and receiving, radar, amplifier systems and any application 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.

The PE83CR004 is a single junction circulator that operates from 1.7 to 2.4 GHz and can handle up to 10 Watts (CW) in the forward direction. The coaxial part uses SMA female connectors on all ports and has electrical specifications of 1.3:1 max VSWR, 17 dB min isolation and 0.75 dB max insertion loss. The package is RoHS compliant.

### Electrical Specifications

| Description       | Minimum | Typical | Maximum | Units |
|-------------------|---------|---------|---------|-------|
| Frequency Range   | 1.7     |         | 2.4     | GHz   |
| Impedance         |         | 50      |         | Ohms  |
| Insertion Loss    |         |         | 0.75    | dB    |
| Isolation         | 17      |         |         | dB    |
| VSWR              |         |         | 1.3:1   |       |
| Forward Power, CW |         |         | 10      | 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: [Circulator with 17 dB Isolation from 1.7 GHz to 2.4 GHz, 10 Watts and SMA Female PE83CR004](#)



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### Mechanical Specifications

#### Size

|        |                    |
|--------|--------------------|
| Length | 1.26 in [32 mm]    |
| Width  | 0.71 in [18.03 mm] |
| Height | 1.26 in [32 mm]    |

|                           |          |
|---------------------------|----------|
| Body Material and Plating | Aluminum |
|---------------------------|----------|

#### Configuration

|               |                 |
|---------------|-----------------|
| Design        | Single Junction |
| Package Style | Connectorized   |
| Connector 1   | SMA Female      |
| Connector 2   | SMA Female      |
| Connector 3   | SMA Female      |

### Environmental Specifications

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

### Plotted and Other Data

Notes:

Circulator with 17 dB Isolation from 1.7 GHz to 2.4 GHz, 10 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.

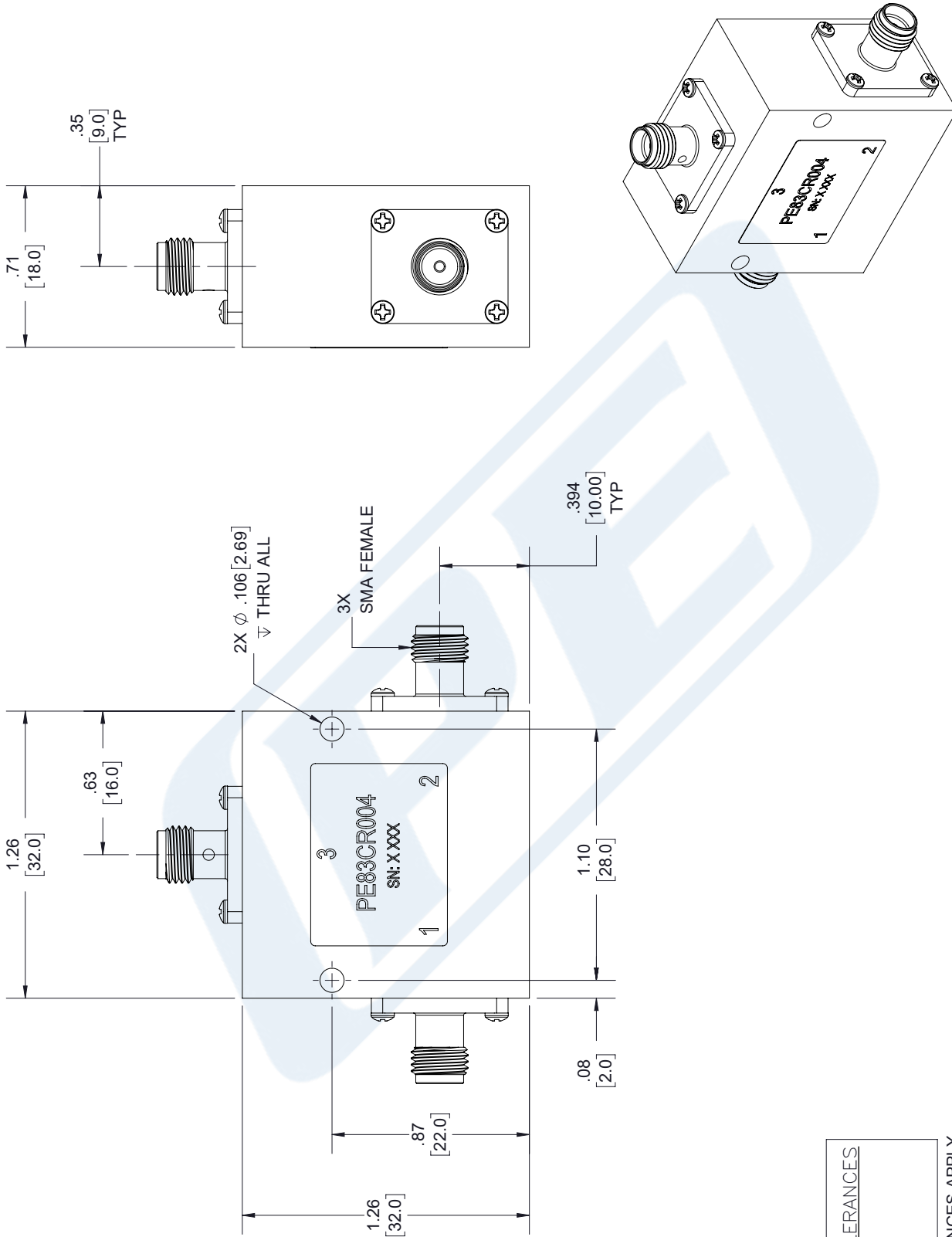
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [Circulator with 17 dB Isolation from 1.7 GHz to 2.4 GHz, 10 Watts and SMA Female PE83CR004](#)

URL: <https://www.pasternack.com/circulator-17db-isolation-2.4-ghz-10-watts-sma-female-pe83cr004-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.

# PE83CR004 CAD Drawing

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| STANDARD TOLERANCES |             |
|---------------------|-------------|
| .X                  | $\pm 0.2$   |
| .XX                 | $\pm 0.01$  |
| .XXX                | $\pm 0.005$ |

\*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES



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DWG TITLE  
**PE83CR004**

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].

|           |          |
|-----------|----------|
| CAGE CODE | 53919    |
| SCALE     | N/A      |
| SIZE      | A        |
| CAD FILE  | 07/23/18 |
|           | 7361     |