



Waveguide Mixer Down Converter WR-22 From  
33 GHz to 50 GHz, IF From DC to 18 GHz And LO Power  
of +13 dBm, UG-383/U Flange, Q Band

## Waveguide Converters - PE12D1004

### Features

- Q Band (33 to 50 GHz) full waveguide Down converter
- Broad IF Frequency Range: DC to 18 GHz
- LO Drive level: +13 dBm nominal
- RF & LO Ports: WR-22 with UG-383/U-MOD Flange
- Double Balanced design
- Low Capacitance GaAs Schottky Beam Lead diodes
- Gold Plated Compact Package Design
- Operating Temperature: 0°C to +50°C

### Applications

- Receiver Subsystems
- Military Communications
- Commercial Communications
- Instruments and Test Equipment

### Description

The PE12D1004 is a full waveguide band down converter mixer with an LO and RF frequency range of 33 to 50 GHz (Q Band). The IF frequency range is DC to 18 GHz with a nominal LO drive level of +13 dBm. The double balanced circuit design utilizes high performance GaAs Schottky beam lead diodes. Conversion loss is 6.5 dB typical and flat across the entire frequency band. The gold plated compact package design uses integrated WR-22 with UG-383/U-MOD waveguide flange interfaces for the RF and LO ports and a female SMA connector for the IF port.

### Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Frequency Range	33		50	GHz
LO Frequency Range	33		50	GHz
IF Frequency Range	DC		18	GHz
Conversion Loss		6.5		dB
LO Connector Power		13	15	dBm

### Mechanical Specifications

#### Temperature

Operating Range

0 to +50 deg C

#### Size

Length

1.5 in [38.1 mm]

Width

1.13 in [28.7 mm]

Height

1.13 in [28.7 mm]

Weight

0.0625 lbs [28.35 g]

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [Waveguide Mixer Down Converter WR-22 From 33 GHz to 50 GHz, IF From DC to 18 GHz And LO Power of +13 dBm, UG-383/U Flange, Q Band PE12D1004](#)

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.



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### Connectors

Description	RF Connector	LO Connector	IF Connector
Type	WR-22 UG-383/U	WR-22 UG-383/U	SMA Female

### Configuration

Design

RF Connector

LO Connector

IF Connector

Mixer Down Converter

WR-22 UG-383/U

WR-22 UG-383/U

SMA Female

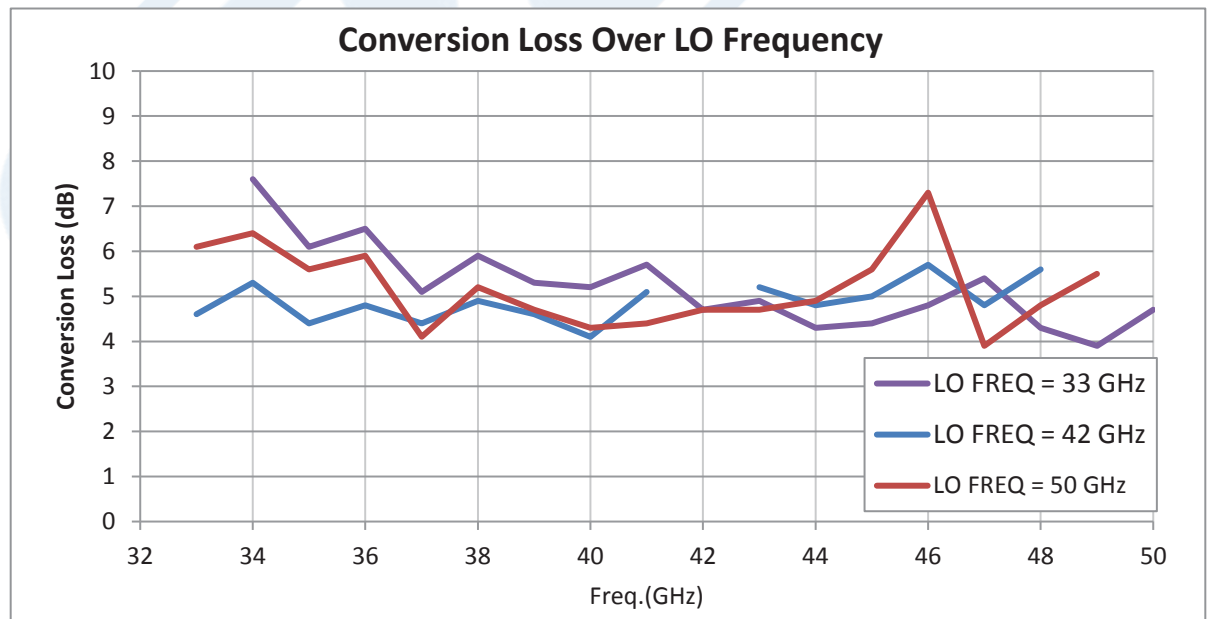
**Compliance Certifications** (visit [www.Pasternack.com](http://www.Pasternack.com) for current document)  
Not RoHS Compliant

### Plotted and Other Data

Notes:

- Values at +25 °C, sea level
- ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in approved ESD Workstation.

### Typical Performance Data



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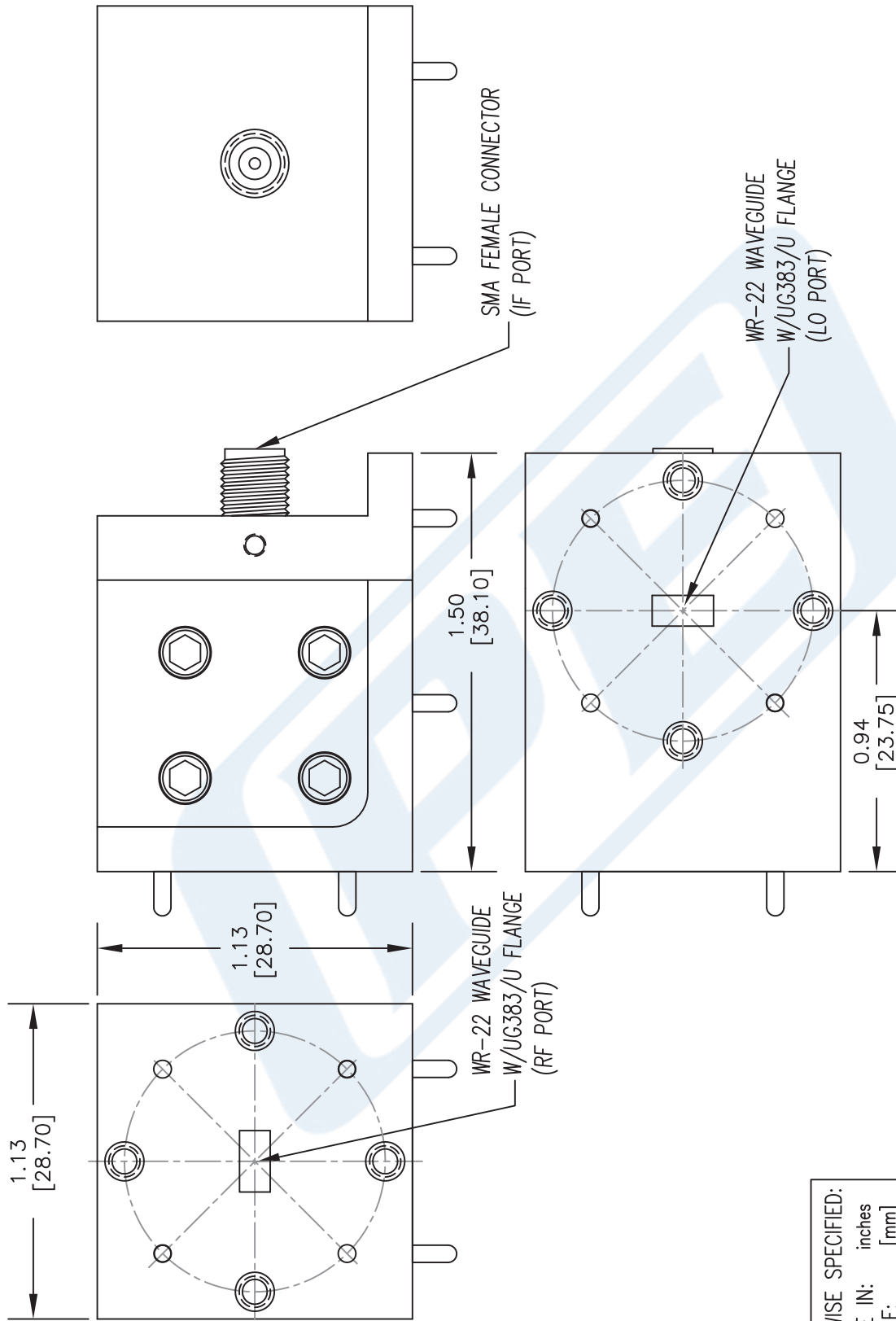
# Waveguide Converters - PE12D1004



UL  
REGISTERED FIRM  
PASTERNAK ENTERPRISES, INC.  
EST. 1991  
CERTIFICATE NO. 100000010000

# PE12D1004 CAD Drawing

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UNLESS OTHERWISE SPECIFIED:  
DIMENSIONS ARE IN: inches  
TOLERANCES ARE: [mm]  
.XX ± .01 [±.25]  
.XX ± .001 [±.025]

\* THESE DIMENSIONS AND TOLERANCES  
SUPERSEDE NOTE #1 ON TITLE BLOCK.

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].

DWG TITLE  
**PE12D1004**

FSCM NO. 53919

CAD FILE 072015

SCALE N/A

SIZE A

2233

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