



Waveguide Mixer Up Converter WR-19 From  
40 GHz to 60 GHz, IF From DC to 18 GHz And LO Power  
of +13 dBm, UG-383/U Flange, U Band

## Waveguide Converters - PE13U1003

### Features

- U Band (40 to 60 GHz) full waveguide up converter
- Broad IF Frequency Range: DC to 18 GHz
- LO Drive level: +13 dBm nominal
- RF & LO Ports: WR-19 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

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

### Description

The PE13U1003 is a full waveguide band up converter mixer with an LO and RF frequency range of 40 to 60 GHz (U 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 7 dB typical and flat across the entire frequency band. The gold plated compact package design uses integrated WR-19 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    | 40      |         | 60      | GHz   |
| LO Frequency Range | 40      |         | 60      | GHz   |
| IF Frequency Range | DC      |         | 18      | GHz   |
| Conversion Loss    |         | 7       |         | 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 Up Converter WR-19 From 40 GHz to 60 GHz, IF From DC to 18 GHz And LO Power of +13 dBm, UG-383/U Flange, U Band PE13U1003](#)

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### Connectors

| Description | RF Connector   | LO Connector   | IF Connector |
|-------------|----------------|----------------|--------------|
| Type        | WR-19 UG-383/U | WR-19 UG-383/U | SMA Female   |

### Configuration

|              |                    |
|--------------|--------------------|
| Design       | Mixer Up Converter |
| RF Connector | WR-19 UG-383/U     |
| LO Connector | WR-19 UG-383/U     |
| IF Connector | SMA Female         |

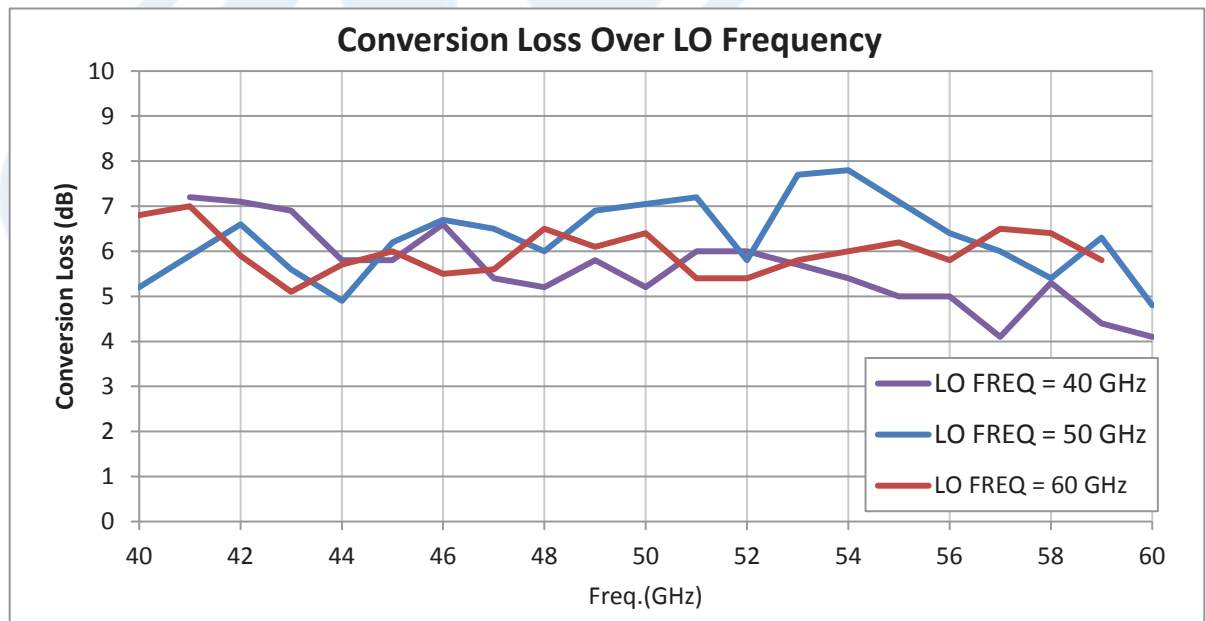
**Compliance Certifications** (visit [www.Pasternack.com](http://www.Pasternack.com) for current document)  
Not RoHS Compliant

### 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 Mixer Up Converter WR-19 From 40 GHz to 60 GHz, IF From DC to 18 GHz And LO Power of +13 dBm, UG-383/U Flange, U Band 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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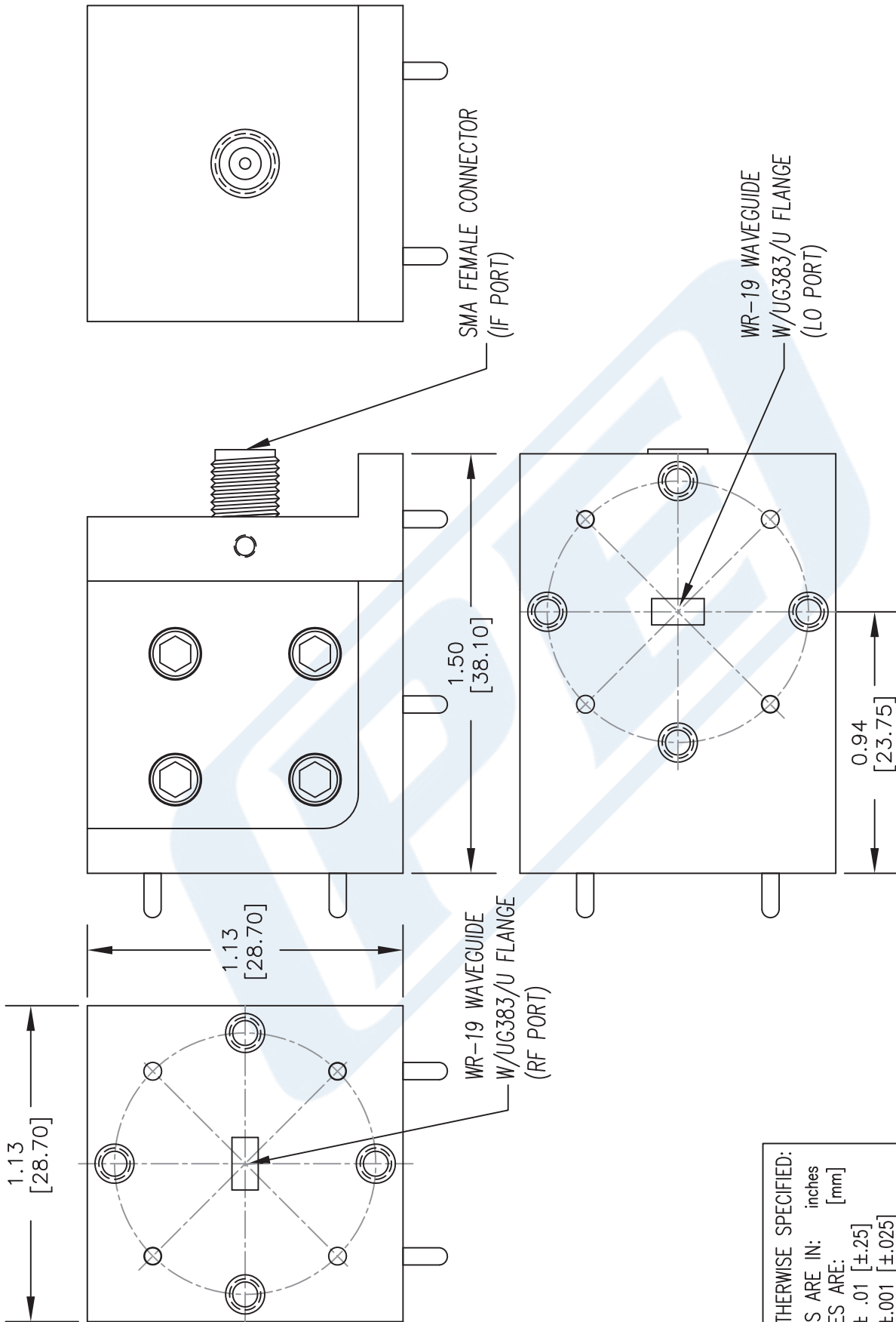
URL: <http://www.pasternack.com/waveguide-mixer-up-converter-wr-19-40-60-ghz-if-18-ghz-pe13u1003-p.aspx>

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# PE13U1003 CAD Drawing

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UNLESS OTHERWISE SPECIFIED:  
 DIMENSIONS ARE IN: inches [mm]  
 TOLERANCES ARE:  
 .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  
**PE13U1003**

FSCM NO. 53919

CAD FILE 072015

SCALE N/A

SIZE A

2233

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