Features

- W Band (75 to 110 GHz) full waveguide Down converter
- Broad IF Frequency Range: DC to 18 GHz
- LO Drive level: +13 dBm nominal
- RF & LO Ports: WR-10 with UG-387/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
- Commercial Communications
- Military Communications
- Instruments and Test Equipment

Description

The PE12D1000 is a full waveguide band down converter mixer with an LO and RF frequency range of 75 to 110 GHz (W 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 9 dB typical and flat across the entire frequency band. The gold plated compact package design uses integrated WR-10 with UG-387/U-MOD waveguide flange interfaces for the RF and LO ports and a female SMA connector for the IF port.

Electrical Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Minimum</th>
<th>Typical</th>
<th>Maximum</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Range</td>
<td>75</td>
<td></td>
<td>110</td>
<td>GHz</td>
</tr>
<tr>
<td>LO Frequency Range</td>
<td>75</td>
<td></td>
<td>110</td>
<td>GHz</td>
</tr>
<tr>
<td>IF Frequency Range</td>
<td>DC</td>
<td></td>
<td>18</td>
<td>GHz</td>
</tr>
<tr>
<td>Conversion Loss</td>
<td>9</td>
<td></td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>LO Connector Power</td>
<td>13</td>
<td></td>
<td>15</td>
<td>dBm</td>
</tr>
</tbody>
</table>

Mechanical Specifications

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Operating Range</th>
<th>0 to +50 deg C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length</td>
<td>1.4 in [35.56 mm]</td>
<td></td>
</tr>
<tr>
<td>Width</td>
<td>0.75 in [19.05 mm]</td>
<td></td>
</tr>
<tr>
<td>Height</td>
<td>0.75 in [19.05 mm]</td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>0.0625 lbs [28.35 g]</td>
<td></td>
</tr>
</tbody>
</table>

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-10 From 75 GHz to 110 GHz, IF From DC to 18 GHz And LO Power of +13 dBm, UG-387/U Flange, W Band PE12D1000

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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Waveguide Converters - PE12D1000

<table>
<thead>
<tr>
<th>Connectors</th>
<th>Description</th>
<th>RF Connector</th>
<th>LO Connector</th>
<th>IF Connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>WR-10 UG-387/U</td>
<td>WR-10 UG-387/U</td>
<td>SMA Female</td>
<td></td>
</tr>
</tbody>
</table>

Configuration

Design: Mixer Down Converter
RF Connector: WR-10 UG-387/U
LO Connector: WR-10 UG-387/U
IF Connector: SMA Female

Compliance Certifications (visit 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 - PE12D1000

Waveguide Mixer Down Converter WR-10 From 75 GHz to 110 GHz, IF From DC to 18 GHz And LO Power of +13 dBm, UG-387/U Flange, W 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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UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN: inches
TOLERANCES ARE:  ±XX ±.01 [±.25]
±XX ±.001 [±.025]

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