Upconverters

FEATURES:
- Low Driver (Biased)
- Low Conversion Loss
- Wide Choice of IF Inputs
- With or Without RF Filter
- High Drive (Unbiased) Options

DESCRIPTION:

Cernexwave’s CUP series millimeter wave upconverters use MIC balanced mixers to provide optimum electrical performance throughout the standard product line. Cernex’s GaAs beam-lead diode technology means power levels as high as +5 dBm. Low conversion loss specifications ensure efficient upconversion.

SPECIFICATIONS:

<table>
<thead>
<tr>
<th>Waveguide Band</th>
<th>K</th>
<th>Ka</th>
<th>Q</th>
<th>U</th>
<th>V</th>
<th>E</th>
<th>W</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waveguide Size</td>
<td>WR-42</td>
<td>WR-28</td>
<td>WR-22</td>
<td>WR-19</td>
<td>WR-15</td>
<td>WR-12</td>
<td>WR-10</td>
</tr>
<tr>
<td>Frequency Range (GHz)</td>
<td>18 to 26.5</td>
<td>26.5 to 40</td>
<td>33 to 50</td>
<td>40 to 60</td>
<td>50 to 75</td>
<td>60 to 90</td>
<td>75 to 110</td>
</tr>
<tr>
<td>IF Frequency Range (GHz)</td>
<td>DC to 8.0</td>
<td>DC to 13.5</td>
<td>DC to 17.0</td>
<td>DC to 20.0</td>
<td>DC to 25.0</td>
<td>DC to 30.0</td>
<td>DC to 35.0</td>
</tr>
<tr>
<td>Conversion Loss (dB)</td>
<td>7.0</td>
<td>7.5</td>
<td>8.0</td>
<td>10.0</td>
<td>9.0</td>
<td>9.0</td>
<td>9.5</td>
</tr>
<tr>
<td>LO Power (dBm)</td>
<td>10 to 13</td>
<td>10 to 13</td>
<td>10 to 13</td>
<td>10 to 13</td>
<td>10 to 13</td>
<td>10 to 13</td>
<td>10 to 13</td>
</tr>
<tr>
<td>Port Isolation (dB)</td>
<td>15.0</td>
<td>15.0</td>
<td>15.0</td>
<td>15.0</td>
<td>15.0</td>
<td>15.0</td>
<td>15.0</td>
</tr>
<tr>
<td>Bias (V/mA)</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Operating Specifications

- RF Bandwidth: Up to Full Bandwidth
- Conversion Flatness: ±1 dB, Typical
- LO Input Power: +20 dBm, Max.
- IF Input Power: +20 dBm, Max.
- Combined Power: +23 dBm, Max.
- RF Output Power: ±0 dBm, Typical
- LO VSWR: 2:1, Typical
- IF VSWR: 2:1, Typical
- LO/RF Isolation: 20 dB, Min.
- Operating Temperature: -40°C to +70°C
HOW TO ORDER:

Specify Model Number  CUP – RF LO IF CLXX  

To be specified by the factory

RF Frequency  
LO Frequency  
Conversion Loss  
IF Frequency  

Example: To order WR-15, specify CSM-15-XX.

CERNEXWAVE RESERVE THE RIGHT TO CHANGE THE SPECIFICATIONS WITHOUT NOTICE