FEATUERES

- Full waveguide bandwidth
- High sensitivity
- Zero biased
- No mechanical tuning
- Compact size

APPLICATIONS

- Instrumentation
- Power detection
- Direct detection receiver

DESCRIPTION

FAS series broadband waveguide detectors are offered in seven waveguide bands to cover frequency spectrums from 18 to 110 GHz. These detectors employ high performance GaAs Schottky beamlead diodes and a proprietary circuit design to produce high sensitivity and broad bandwidth without external DC bias or mechanical tuning. The standard detectors are equipped with SMA(F) connector for video output and offered negative output voltage polarity for various applications. The matched pairs with similar sensitivity response cross the entire bandwidth are available. These detectors are idea devices where power detection or power monitoring is required.

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>Model Number¹</td>
<td>FAS-42SF-01</td>
<td>FAS-28SF-01</td>
<td>FAS-22SF-01</td>
<td>FAS-19SF-01</td>
<td>FAS-15SF-01</td>
<td>FAS-12SF-01</td>
<td>FAS-10SF-01</td>
</tr>
<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>Sensitivity (mV/mW, Min)</td>
<td>1000</td>
<td>1000</td>
<td>800</td>
<td>800</td>
<td>700</td>
<td>600</td>
<td>500</td>
</tr>
<tr>
<td>Video Bandwidth (MHz, Min)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Output Video Imp. (Ohm, Typ)</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Outlines</td>
<td>WT-F-1</td>
<td>WT-F-1</td>
<td>WT-F-2</td>
<td>WT-F-2</td>
<td>WT-F-2</td>
<td>WT-F-2</td>
<td>WT-F-2</td>
</tr>
<tr>
<td>Voltage Output Polarity²</td>
<td>Negative</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input RF Power (dBm, Max)</td>
<td>+20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature Range</td>
<td>0 to +50°C</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Note:

1. SMA(F) output connector is offered as standard model while SMA(M) is available per customer request. For example, the model number for a WR-22 detector with SMA(M) connector is specified as FAS-22SM-01;
2. Positive polarity is available per request. Specify model number with –P1. For example: FAS-10SF-P1.
To order a V band, 60 GHz single sideband modulator with 0.5 GHz IF frequency and 11.0 dB conversion loss, specify FSS-15600511-XX.

Specify Model Number:
FSS – CO LO IF CL - XX

HOW TO ORDER

SPECIFICATIONS

Waveguide Band K Ka Q U V E W
RF Port Connector Type
IF Bandwidth in 1/10 GHz
Conversion Loss in dB
Image Rejection (dB, Min)
LO Pumping Level (dBm)
Temperature Range
Maximum Input Signal Level

FEATURES

 Single sideband modulation
 Compact size
 LO/RF in-line configuration
 Separate I/Q IF inputs
 Low conversion loss

APPLICATIONS

 Radar system
 Communication system
 Single sideband

DESCRIPTION

FSS Series single sideband modulators are offered in seven waveguide bands to cover frequency spectra from 18 to 110 GHz with 5% minimum bandwidth. These modulators employ high performance GaAs Schottky beamlead diodes and are internally phase matched and often be used as single sideband up-converters without adding external filter. The modulators are constructed with fully integrated two balanced mixers, two 3-dB power splitters and phase shifters. The modulators and balanced configuration to produce superior performance with moderate LO pumping level. The modulators are

FACTORY RESERVE

The flange pattern shown is for illustration purpose. Refer to Technical Reference Section for flange pattern details. The outline drawings shown are standard versions. Contact factory for your specific package requirements.

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