2.5Gbps InGaAs APD Module

Features
- High Responsivity, facilitates -28 dBm sensitivity
- High speed, typical 2.5GHz
- Low dark current
- Low capacitance, typical 0.23pF
- Operating temperature range -40°C to 85°C
- Hermetically sealed TO-18 package in pigtailed or receptacle housing
- RoHS Compliant

Specifications (T=25°C)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Test Condition</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spectral Range</td>
<td>λ</td>
<td></td>
<td>850</td>
<td>-</td>
<td>1650</td>
<td>nm</td>
</tr>
<tr>
<td>Breakdown Voltage</td>
<td>V_{BD}</td>
<td>I_{d}=10uA</td>
<td>32</td>
<td>-</td>
<td>46</td>
<td>V</td>
</tr>
<tr>
<td>Operating Voltage</td>
<td>V_{OP}</td>
<td>Best sensitivity</td>
<td>-</td>
<td>V_{BD}-3</td>
<td>V_{BD}-2</td>
<td>V</td>
</tr>
<tr>
<td>Temperature Coefficient of Breakdown Voltage</td>
<td></td>
<td></td>
<td>0.06</td>
<td>0.07</td>
<td>0.08</td>
<td>V/°C</td>
</tr>
<tr>
<td>Dark Current</td>
<td>I_{d}</td>
<td>0.9*V_{BD}, 25°C</td>
<td>-</td>
<td>30</td>
<td>-</td>
<td>nA</td>
</tr>
<tr>
<td>Gain</td>
<td>M</td>
<td>V_{OP}</td>
<td>7</td>
<td>10</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Terminal Capacitance</td>
<td>C</td>
<td>0.9*V_{BD}, f=1MHz</td>
<td>-</td>
<td>0.23</td>
<td>-</td>
<td>pF</td>
</tr>
<tr>
<td>Bandwidth (3dB)</td>
<td>BW</td>
<td>M=10</td>
<td>3</td>
<td>3.5</td>
<td>4</td>
<td>GHz</td>
</tr>
<tr>
<td>Series Resistance</td>
<td>R_{s}</td>
<td>-</td>
<td>-</td>
<td>60</td>
<td>-</td>
<td>Ω</td>
</tr>
<tr>
<td>Return Loss</td>
<td></td>
<td></td>
<td>-1(Receptacle)</td>
<td>14</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-3(Receptacle or Pigtail)</td>
<td>30</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-4(Receptacle or Pigtail)</td>
<td>40</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-5(Pigtail)</td>
<td>50</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Absolute Maximum Rating

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Min.</th>
<th>Max.</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Temperature</td>
<td>T_{o}</td>
<td>-40</td>
<td>85</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>T_{stg}</td>
<td>-40</td>
<td>100</td>
</tr>
<tr>
<td>Forward Current</td>
<td>I_{F}</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Reverse Voltage</td>
<td>V_{R}</td>
<td>-</td>
<td>V_{BD}</td>
</tr>
<tr>
<td>Reverse Current</td>
<td>I_{R}</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Lead Soldering Temperature (10 sec)</td>
<td>T_{L}</td>
<td>-</td>
<td>260</td>
</tr>
</tbody>
</table>
Ordering Information

- Fiber length
  - R0 for receptacle
  - PG for pigtail 100cm
- Connector type
  - Receptacle: SC, FC or ST
  - Pigtail: SC, FC, ST, LC, MU or SMA
- Flange type
  - B for board mount
  - P for panel mount
  - U for UP mount
  - X for None
  - 1, 3, 4, 5 for return loss
    (please see the spec above)

APD 2 G 5
S1 for 9/125um
Receptacle: X
Pigtail: P for PC
A for APC

Responsivity vs Voltage

1550nm LD

850nm LED

Power: DC 1uW
Power: DC 10uW
2.5Gbps InGaAs APD Module

BOTTOM VIEW

PIN CONNECTIONS

FC-BM

ST-BM

FC-PM

2-56UNC-2B

ST-BM

SC

2-56UNC-2B

Thread Bolaes

3/8"-32UNF

5.4 M8x0.75

14.7

2

2

6.1

5.3

10.0

2.5Gbps InGaAs APD

2013-1