Up to 56 Gbit/s NRZ
700-870 nm
Single channel optical receiver

Product Code: R56-850TB

Product Description

The R56-850TB optical receiver module utilizes a PIN photodetector and limiting transimpedance amplifier (TIA) assembled onto a high speed adaptor board with differential electrical signal output. The multi mode fiber coupled module with FC/PC connector input is designed for short reach ultrahigh-speed data communication applications of up to 56Gbit/s using NRZ modulation. Each part is electro-optically tested to ensure a maximum performance.

Features
· up to 56 Gbit/s data rate
· 50/125 um fiber coupled testboard
· 1.85 mm electrical RF connectors
· FC/PC optical connector

Applications
· CEI-56G-NRZ (XSR/USR/MR/LR)
· Proprietary optical interconnects
· Research and development

Parameter | Typical (PD chips) | Notes |
--- | --- | --- |
Operating Wavelength | 700 – 870 nm | |
Data rate | up to 56 Gbit/s | NRZ modulation |
Rise time (20% to 80%) | ~ 6 ps | |
Maximum power consumption | 280 mW | |

All product specifications and descriptions are subject to change without notice.
# Electro-optical characteristics

( at \( T_{\text{case}} = 25 \, ^{\circ}\text{C} \) )

<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>Wavelength responsivity</td>
<td>( \lambda )</td>
<td>700</td>
<td>850</td>
<td>890</td>
<td>nm</td>
<td></td>
</tr>
<tr>
<td>Case operating temperature</td>
<td>( T_{\text{op}} )</td>
<td>-10</td>
<td></td>
<td>85</td>
<td>( ^{\circ}\text{C} )</td>
<td></td>
</tr>
<tr>
<td>Supply voltage</td>
<td>( V_{\text{cc}} )</td>
<td>3.3</td>
<td>3.4</td>
<td></td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Supply current</td>
<td>( I_{\text{cc}} )</td>
<td>34</td>
<td>45</td>
<td>61</td>
<td>mA</td>
<td></td>
</tr>
<tr>
<td>Bandwidth</td>
<td>( BW )</td>
<td>50</td>
<td></td>
<td></td>
<td>GHz</td>
<td></td>
</tr>
<tr>
<td>Low frequency cutoff</td>
<td></td>
<td></td>
<td></td>
<td>70</td>
<td>kHz</td>
<td></td>
</tr>
<tr>
<td>Sensitivity (OMA)</td>
<td>( S )</td>
<td>-13</td>
<td>-12</td>
<td></td>
<td>dBm</td>
<td></td>
</tr>
<tr>
<td>Output resistance</td>
<td>( R_o )</td>
<td>100</td>
<td></td>
<td></td>
<td>( \Omega )</td>
<td></td>
</tr>
<tr>
<td>Optical overload</td>
<td></td>
<td>1.5</td>
<td></td>
<td>280</td>
<td>dBm</td>
<td></td>
</tr>
<tr>
<td>Differential output voltage</td>
<td>( V_{\text{out}} )</td>
<td></td>
<td></td>
<td></td>
<td>mV</td>
<td></td>
</tr>
<tr>
<td>Duty cycle distortion</td>
<td></td>
<td></td>
<td>1</td>
<td>10</td>
<td>%</td>
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</tbody>
</table>

## Absolute Maximum Ratings

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Min</th>
<th>Max</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage temperature</td>
<td>( T_{\text{St}} )</td>
<td>-10</td>
<td>+50</td>
<td>( ^{\circ}\text{C} )</td>
</tr>
<tr>
<td>Incident optical power</td>
<td>( P_{\text{in}} )</td>
<td></td>
<td>+5</td>
<td>dBm</td>
</tr>
<tr>
<td>Power supply voltage</td>
<td>( V_{\text{P}} )</td>
<td></td>
<td>4.0</td>
<td>V</td>
</tr>
</tbody>
</table>
Dimensions

![Diagram of dimensions](image)

RoHS Compliant

**ATTENTION**
Observe Precautions for Handling
Electrostatic Sensitive Device

All product specifications and descriptions are subject to change without notice.
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