



PD850-27TF-AMP

- GaAs PIN Photodiode with integrated TI Amplifier
- Responsivity Range 770 – 860 nm
- 2.5 Gbps Data Rates
- Chip Size 0.27 x 0.27 mm
- TO-46 Package, Flat Window

Description

PD850-27TF-AMP is a GaAs PIN Photodiode with **integrated transimpedance amplifier** and a responsivity range of 770-860 nm. It features of 2.5 Gbps data rates, high sensitivity, and comes in hermetically sealed TO-46 package with flat window.

Maximum Ratings

| Parameter | Symbol | Values | | Unit |
|---------------------------|--------------|--------------------|-------|------|
| | | Min. | Max. | |
| Power Supply Voltage | V_{supply} | 0 | 4 | V |
| Incident Optical Power | P | Average 0 / Peak 4 | | dBm |
| Operating Temperature | T_{CASE} | - 40 | + 85 | °C |
| Storage Temperature | T_{STG} | - 40 | + 100 | °C |
| Lead Solder Temperature * | T_{SLD} | | + 260 | °C |

* must be completed within 10 seconds

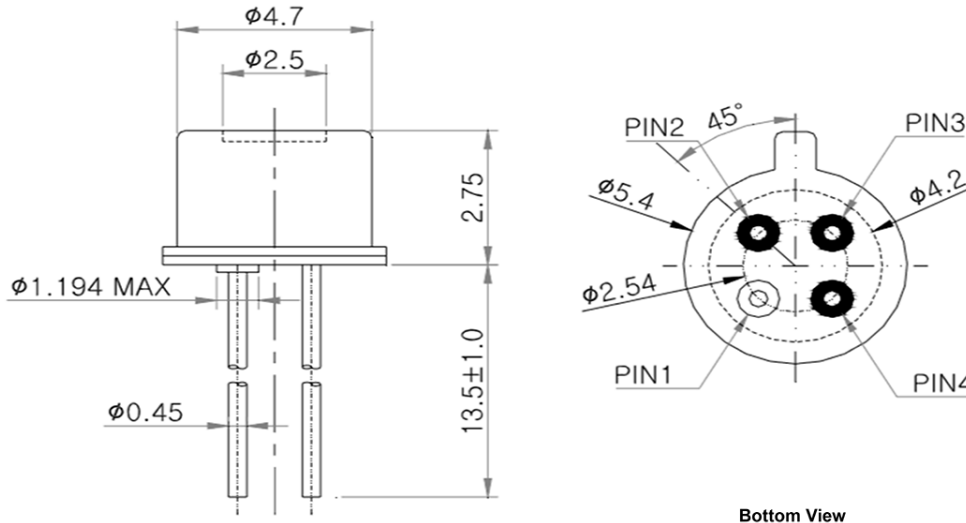
Electro-Optical Characteristics $(T_{CASE}=25^{\circ}C)$

| Parameter | Symbol | Test Conditions | Values | | | Unit |
|---------------------------|--------------|--|--------|------|------|------------------|
| | | | Min. | Typ. | Max. | |
| Responsivity Range | λ | | 770 | 850 | 860 | nm |
| Supply Voltage | V_{CC} | | 3.0 | 3.3 | 3.6 | V |
| Supply Current | I_{CC} | | | 17 | | mA |
| Sensitivity | S | BER= 1×10^{-12} PRBS= $2^{23}-1$ at 2.5Gbps | | -22 | | dBm |
| Differential Output Power | $V_{O,diff}$ | | 140 | 200 | 310 | mV _{PP} |
| 3dB Bandwidth | $f_{h,-3dB}$ | $P_{ave}=-12dBm, \lambda=850nm$ | | 1.8 | | GHz |
| Low Frequency Cutoff | $f_{l,-3dB}$ | | | 40 | 70 | KHz |
| Rise / Fall Time | t_R / t_F | $P_{ave}=-12dBm, \lambda=850nm$ | | 130 | | ps |
| Output Resistance | R_o | Single-ended | | 50 | | Ω |



Outline Dimensions

TO-46 with flat window



All Dimensions in mm

Electrical Connection

| Lead | Description |
|-------|--------------------|
| PIN 1 | GND |
| PIN 2 | V _{OUT} + |
| PIN 3 | V _{CC} |
| PIN 4 | V _{OUT} - |

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