

## 2.5 Gbps PIN-TIA (850nm) 3.3V

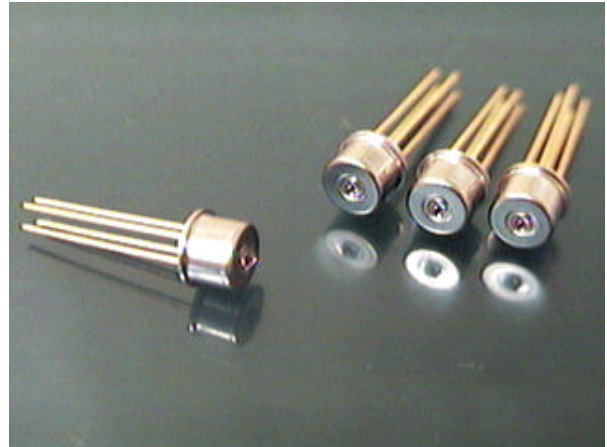
*Preliminary*

### Features

- 2.5 Gbps typical bandwidth.
- GaAs PIN Detector with transimpedance amplifier in a TO-46 hermetic package.
- High sensitivity with AGC.
- Differential ended output
- Single 3.3V operation.

### Applications

- ◆ **Optical Communication Receiver / Transceiver**
  - SONET OC-48/SDH STM-16
  - Gigabit Ethernet
  - Fiber Channel



### Handling and Safety Precautions

Anti-static protection, such as ionized air blowers or grounded wrist straps with a 1 mega series resistor, should be used at all times when handling laser diodes. In addition, soldering irons should be well grounded.

Overheating caused by soldering of the leads of a laser diode must be prevented. Recommend soldering iron temperature and maximum exposure time are below 260°C and 10 seconds.

### Description

The MCD-8T4C-511 is a high performance 850 nm GaAs PIN detector with transimpedance-amplifier .This product is designed for short and medium distance optical fiber communication.

The MCD-8T4C-511 is compatible with industry standard wave or hand solder processes.

~ Absolute Maximum Ratings (Tc = 25 °C)

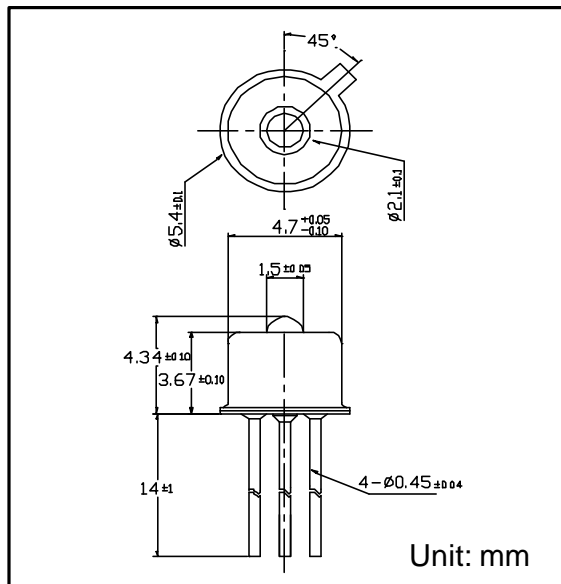
Parameter	Symbol	Rated Value	Unit
Voltage	V	3.8	V
Operating case temperature	Top	- 40 to +85	°C
Storage temperature	T <sub>STG</sub>	- 40 to +85	°C

~ DC/ Electrical Characteristics (Tc = 25 °C)

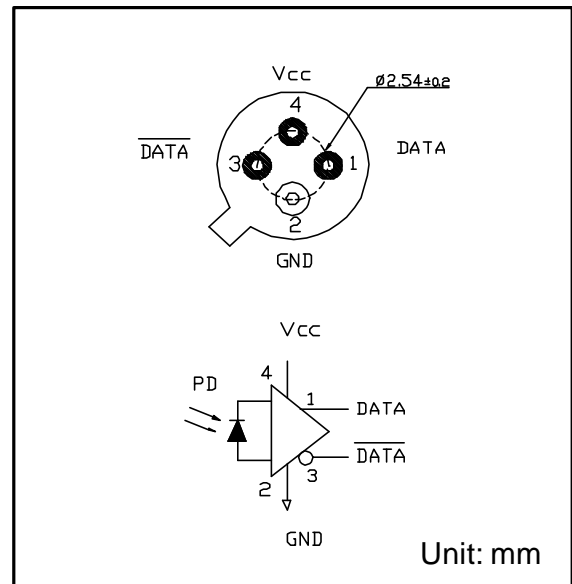
Parameter	Symbol	Min.	Typ.	Max.	Unit
Supply power	Vcc	3.0	3.3	3.6	V
Differential Output Voltage	Vd	-	-	0.2	V
Supply current (no load)	Icc	-	-	40	mA

~ AC/ Optical & Electrical Characteristics (Tc = 25 °C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Detection Range			770	850	860	nm
Gain@10Mbs Differential	G	λ=850nm	-	3.5	-	V/mW
Bandwidth	BW		1.7	1.9	-	GHz
Saturation Power	Psat	λ=850nm	-3	0	-	dBm
Sensitivity	Sens	BER=10 <sup>-12</sup> @ 2.5Gbps	-	-20	-17	dBm
Output Resistance	Rout		-	50	-	ohm
Operation Speed			-	2.5	-	Gbps



**Package Dimensions**



**Pin Connections ( Bottom View )**

NOTE: Specifications are subjected to change without notice.

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