



**Model No. PDT-A85P4-1GB3**

**1.25Gbps 850nm GaAs PIN plus AGC Pre-amplifier Photodiode in TO-46 Package**

**FEATURES**

- 850nm GaAs PIN TIA 4 pin TO
- Industry standard TO-46 package with cap lens
- Optimized for fiber optic application
- Design for short wavelength 1.25Gbps applications
- Single power supply from +3.3V



**ELECTRO-OPTICAL CHARACTERISTICS** (Typical values are at + 3.3V@25°C)

PARAMETERS	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
POWER SUPPLY	V <sub>cc</sub>	3.0	3.3	3.6	V	
SUPPLY CURRENT	I <sub>cc</sub>		22	30	mA	No loads
DIFFERENTIAL RESPONSIVITY	R <sub>d</sub>	7.6		17.8	mV/uW	λ = 850nm, R <sub>load</sub> =100ohm, P = -24dBm
SINGLE ENDED RESPONSIVITY	R <sub>s</sub>	3.8		8.9	mV/uW	λ = 850nm, R <sub>load</sub> =50ohm, P = -24dBm
SMALL-SIGNAL BANDWIDTH	BW	700			MHz	
LOW-FREQUENCY CUT OFF	LF			100	kHz	
RISE/FALL TIME (20-80%)	tr/tf			400	ps	P = -24dBm, T <sub>A</sub> = 25°C
SATURATION POWER	P <sub>sat</sub>	0			dBm	
SINGLE ENDED OUTPUT IMPEDANCE	R <sub>O</sub>		50		ohm	
WAVELENGTH	λ	770		860	nm	
SENSITIVITY				-26	dBm	λ = 850nm, @1244.16Mbps, PRBS7, ER=10dB, BER=10 <sup>-10</sup>

**ABSOLUTE MAXIMUM RATINGS**

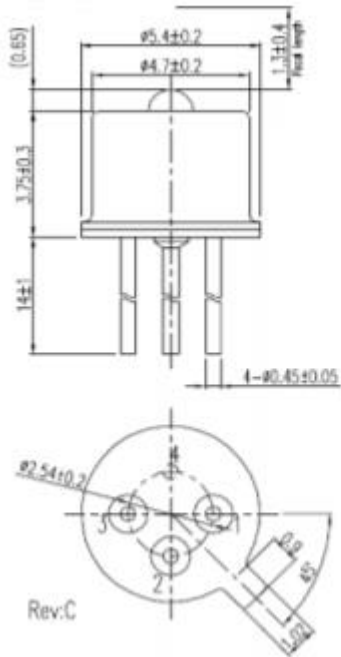
PARAMETERS	MIN.	MAX.	UNIT	CONDITIONS
STORAGE TEMPERATURE	-40	100	°C	
OPERATING TEMPERATURE	-40	85	°C	
LEAD SOLDER TEMPERATURE		260	°C	10 seconds

**Notes: The above specifications are subject to change without notice.**





**OUTLINE DIMENSIONS (unit: mm)**

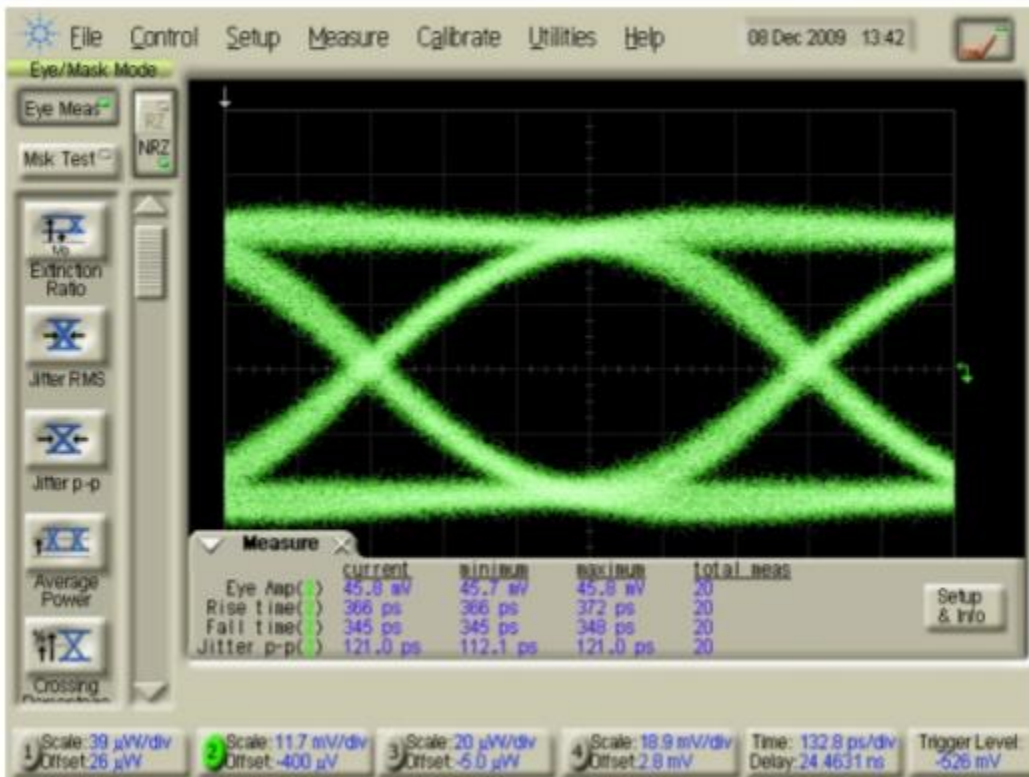


**Pinout:**

- 1. Dout
- 2. Vcc
- 3. Dout
- 4. Gnd

**EYE DIAGRAM**

$R_{load} = 50\Omega$ ,  $P = -24\text{dBm}$  @ 1244.16Mbps, 850nm, PRBS7.



$t_r = 366\text{ps}$ ,  $t_f = 345\text{ps}$ , Jitter p-p = 121.0ps

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