



Model No. PDT-A85P5-10GA3

10Gbps 850nm GaAs PIN plus Pre-amplifier Photodiode in TO-46 Package

FEATURES

- 850nm GaAs PIN TIA 5 pin TO
- Industry standard TO-46 package with long cap lens
- Optimized for fiber optic application
- Design for short wavelength from 1.25Gbps to 10.3125Gbps applications
- Photocurrent monitoring available
- 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 _{CC}	3.0		3.6	V	
SUPPLY CURRENT	I _{CC}			62	mA	No loads
DIFFERENTIAL RESPONSIVITY	R _d	1.6		3.4	mV/uW	λ = 850nm, R _{load} =100ohm, P= -15dBm
SINGLE ENDED RESPONSIVITY	R _s	0.8		1.7	mV/uW	λ = 850nm, R _{load} =50ohm, P = -15dBm
TIA RSSI	Slope	0.9	1.0	1.1	mA/mA	
	Offset	0	40	100	nA	
	Linearity Limit			1.6	mA	
SMALL-SIGNAL BANDWIDTH	BW	7.0			GHz	P = -15dBm ⁽¹⁾
LOW-FREQUENCY CUT OFF	LF			70	kHz	
RISE/FALL TIME (20-80%)	tr/tf			50	ps	P = -15dBm, λ = 850nm ⁽¹⁾
SATURATION POWER	P _{sat}	0			dBm	
SINGLE ENDED OUTPUT IMPEDANCE	R _O		50		ohm	
WAVELENGTH	λ	770		860	nm	
SENSITIVITY				-13.5	dBm	λ = 850nm, @10.3125Gbps ⁽¹⁾ , PRBS31, ER=7dB, BER=10 ⁻¹²

Notes:

1. The spec and tested data are subject to ROSM level (flexible circuit attached) measurement.
2. The above specifications are subject to change without notice.

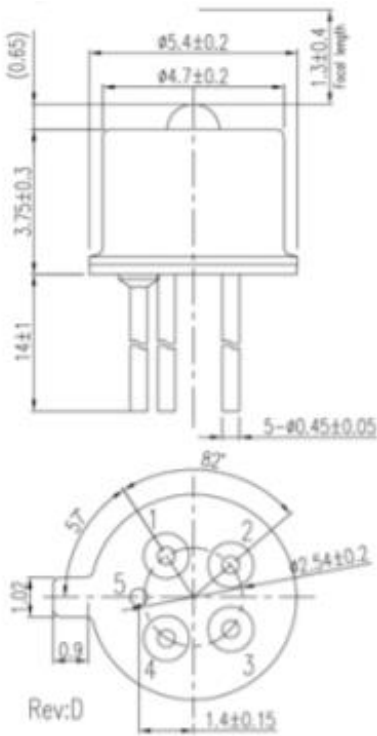




ABSOLUTE MAXIMUM RATINGS

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

OUTLINE DIMENSIONS (unit: mm)



Pinout:

1. Dout
2. Vcc
3. Isource
4. $\overline{\text{Dout}}$
5. Gnd

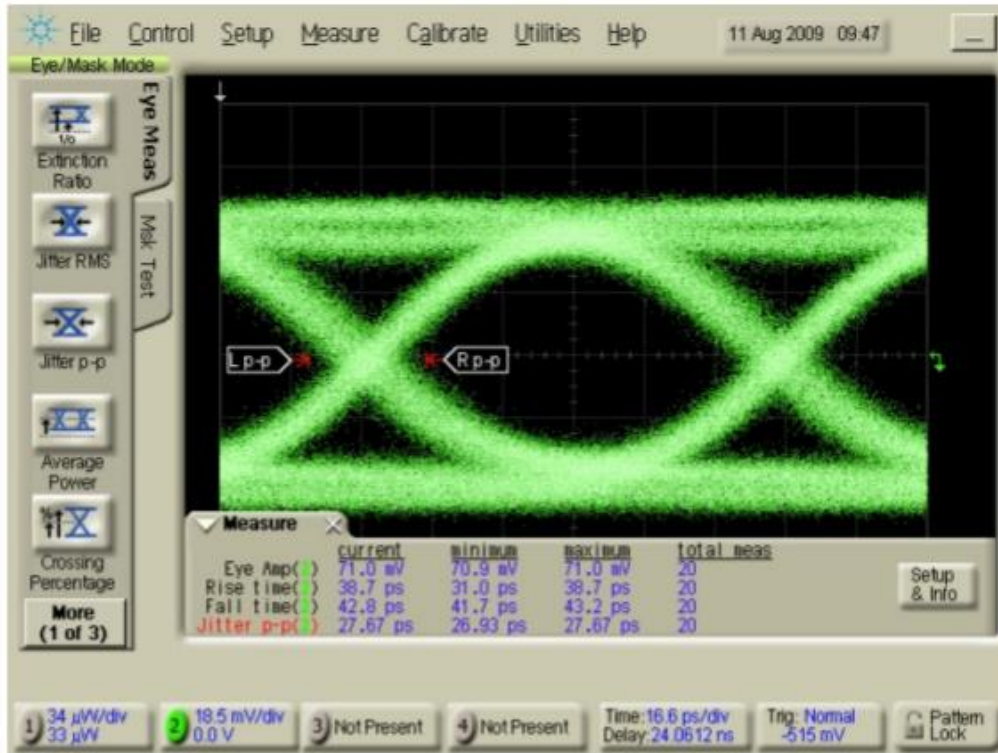
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EYE DIAGRAM

$R_{load} = 50\Omega$, $P = -15\text{dBm}@10.3125\text{Gbps}$, 850nm, PRBS 31⁽¹⁾



$t_r=38.7\text{ps}$, $t_f=42.8\text{ps}$, Jitter p-p=27.67ps

Notes:

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