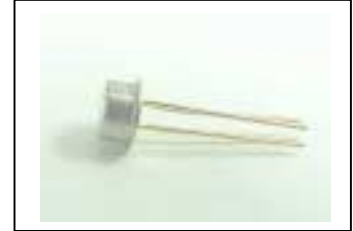


TMC-1C42-003

1 GHz InGaAs PIN plus Pre-amplifier

FEATURES:

- Industry standard TO-46 package with flat window.
- Small-form package for optical alignment allowance.
- Design for long wavelength 1.25 Gbps applications.
- Packaged with opposite data output pin assignment.



ELECTRO-OPTICAL CHARACTERISTICS:

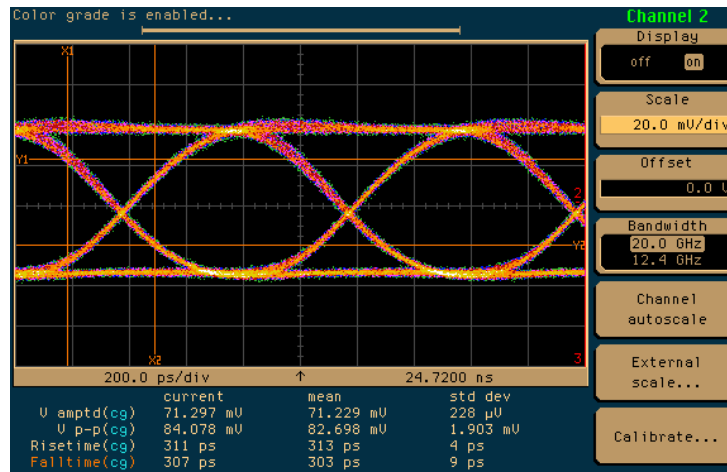
PARAMETERS	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS
Power Supply	V_{CC}	3.0		5.5	V	
Supply Current	I_{CC}		26	50	mA	no loads
Differential Responsivity	R_d	1.9	2.5	3.0	mV/ μ W	$R_{load} = 100 \text{ ohm}$, $P = -15 \text{ dBm @ } 50 \text{ MHz}$, 1310nm
Single Ended Responsivity	R_s	0.9	1.2	1.5	mV/ μ W	$R_{load} = 50 \text{ ohm}$, $P = -15 \text{ dBm @ } 50 \text{ MHz}$, 1310nm
Small-Signal Bandwidth	BW	750	920	1100	MHz	
Low-Frequency Cut off	LF		44		kHz	
Rise Time/Fall Time	t_r/t_f		300	400	ps	20 % ~ 80 %, $P = -15 \text{ dBm}$, 1310nm
Single Ended Output Impedance	R_o	48	50	52	ohm	
RMS Input Referred Noise			220	290	nW	
Maximum Differential Output Voltage		185	250	415	mV p-p	$P = 0 \text{ dBm}$, 1310nm
Wavelength	λ	1270		1380	nm	

ABSOLUTE MAXIMUM RATINGS:

PARAMETERS	MIN	MAX	UNIT	CONDITIONS
Storage Temperature	-40	100	°C	
Operating Temperature	-20	85	°C	
Lead Solder Temperature		260	°C	10 seconds

Eye Diagram:

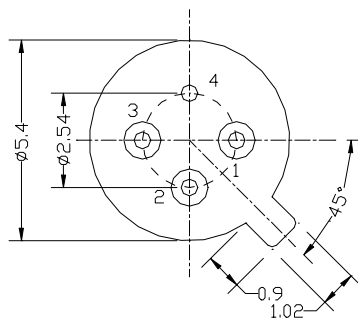
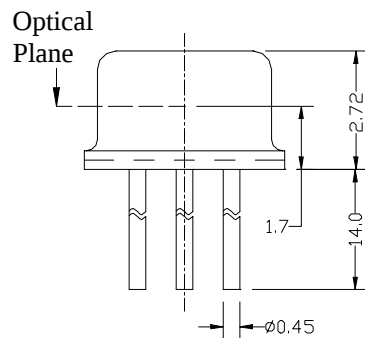
$R_{load} = 50 \text{ ohm}$, $P = -15 \text{ dBm @ } 1250 \text{ Mbps}$, 1310nm , $\text{PRBS} = 2^7-1$,



$t_r = 311\text{ps}$, $t_f = 307\text{ps}$

OUTLINE DIMENSIONS:

UNIT: mm

**Pinout**

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

Notice:

1. The orientation of header tab is for reference only, the mechanical location might be changed upon the replaceable materials while the optical design is kept the same.

2. Regular delivery is tabless.

TrueLight reserves the right to make changes due to the improvement of process and package technology.

