

TMC-1C42-002

1 GHz InGaAs PIN plus Pre-amplifier

FEATURES:

- Industry standard TO-46 package with cap lens.
- Optimized for fiber optic application.
- Design for long wavelength 1.25 Gbps applications.
- Packaged with opposite data output pin assignment.
- Single Power supply from 3.0 to 5.5 Volt.



ELECTRO-OPTICAL CHARACTERISTICS:

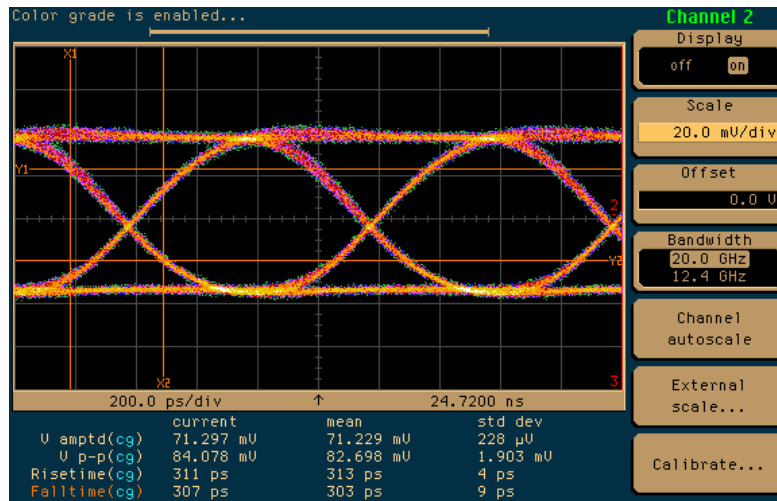
Typical values are VCC = +3.3 V, 25°C, unless otherwise noted

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/μW	R _{load} = 100 ohm, P = -18dBm @ 50 MHz, 1310nm1550nm
Single Ended Responsivity	R _s	0.9	1.2	1.5	mV/μW	R _{load} = 50 ohm, P = -18dBm @ 50 MHz, 1310nm1550nm
Small-Signal Bandwidth	BW	750	920	1100	MHz	
Low-Frequency Cut off	LF		44		kHz	
Rise Time/Fall Time	tr/tf		300	400	ps	20 % ~ 80 %, P = -18 dBm, 1310nm1550nm
Single Ended Output Impedance	R _O	48	50	52	ohm	
Maximum Differential Output Voltage		185	250	415	mV p-p	P = 0 dBm, 1310nm
Wavelength	λ	1270		1620	nm	
Focal length	F	0.9	1.3	1.7	mm	From the surface of lens
Sensitivity				-23	dBm	

ABSOLUTE MAXIMUM RATINGS:

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

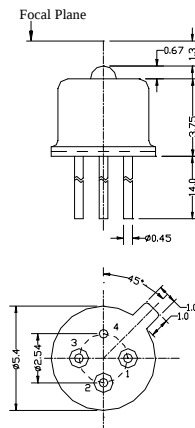
Eye Diagram:

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


tr = 311ps, tf = 307ps

OUTLINE DIMENSIONS:

UNIT: mm



Pinout

1. Dout
2. Vcc
3. $\overline{\text{Dout}}$
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*.