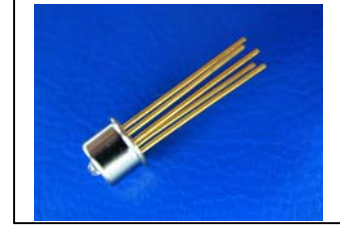


TMC-1C59-721

10Gbps InGaAs PIN plus Pre-amplifier

FEATURES:

- Industry standard TO-46 package with long cap lens and tab-less.
- Optimized for fiber optic application.
- Supports up to 11.3Gbps application.
- Photocurrent monitoring available.
- Single power supply +3.3V.



ELECTRO-OPTICAL CHARACTERISTICS: ($T_A = 25^\circ\text{C}$)

PARAMETERS		SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS
Power Supply		V_{CC}	3.0	3.3	3.6	V	
Supply Current		I_{CC}		27	34	mA	no loads
Differential Responsivity		R_d	2.0	3.2	5.0	mV/ μW	$R_{load} = 100\text{ohm}$, $P = -15\text{dBm}$, $\lambda = 1310\text{nm}$
Single Ended Responsivity		R_s	1.0	1.6	2.5	mV/ μW	$R_{load} = 50\text{ohm}$, $P = -15\text{dBm}$, $\lambda = 1310\text{nm}$
TIA RSSI	Slope		0.9	1.0	1.1	mA/mA	
	Offset				100	nA	
	Linearity Limit				1.6	mA	
Small-Signal Bandwidth		BW	7.0			GHz	$P = -15\text{dBm}^{(1)}$
Low-Frequency Cut off		LF			30	kHz	
Rise / Fall Time(20 % ~ 80 %)		tr/tf			50	ps	$P = -15\text{dBm}$, $\lambda = 1310\text{nm}^{(1)}$
Saturation Power		P_{Sat}	0.5			dBm	
Single Ended Output Impedance		R_O		50		ohm	
Wavelength		λ	1260		1620	nm	
Sensitivity					-17.0	dBm	$\lambda = 1310\text{nm}$, @10.3125Gbps ⁽¹⁾ PRBS 31, ER=7dB, BER=1E-12
					-15.5	dBm	$\lambda = 1310\text{nm}$, @10.3125Gbps ⁽¹⁾ PRBS 31, ER=4.5dB, BER=1E-12

Notes:

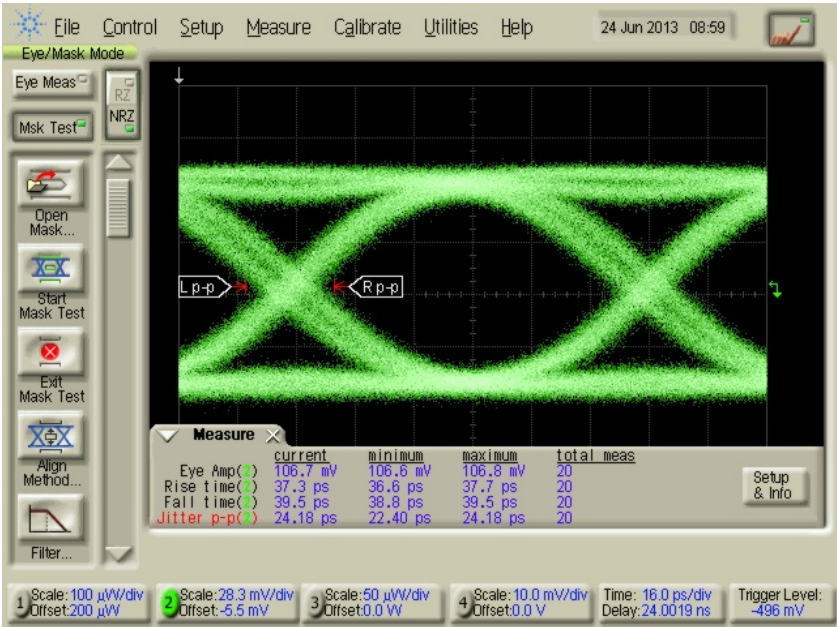
1. The spec and tested data are subject to ROSM level (flexible circuit attached) measurement.

ABSOLUTE MAXIMUM RATINGS:

PARAMETERS	MIN	MAX	UNIT	TEST CONDITIONS
Storage Temperature	-40	100	$^\circ\text{C}$	
Operating Temperature	-40	85	$^\circ\text{C}$	
Lead Solder Temperature		260	$^\circ\text{C}$	10 seconds

Eye Diagram :

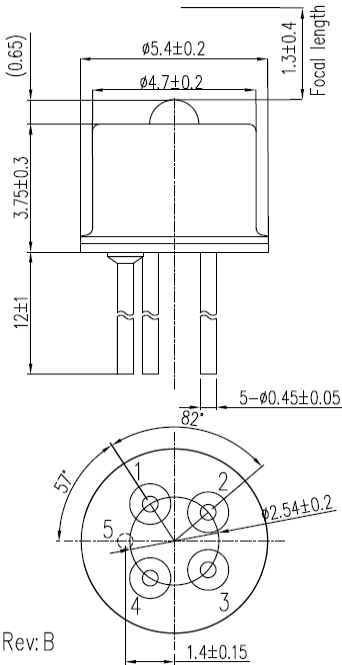
$R_{load} = 50\Omega$, $P = -15\text{dBm}@10.3125\text{Gbps}$, 1310nm, PRBS 31. ⁽¹⁾



$t_r=37.3\text{ps}$, $t_f=39.5\text{ps}$, Jitter p-p=24.18ps

OUTLINE DIMENSIONS:

• Unit: mm



Pinout:

Pin no.	TMC-1C59-721
	Function
1	Dout(+)
2	Vcc
3	Isource
4	Dout(-)
5	Gnd