

TRF-1H59-721

10Gbps LC Connectorized InGaAs PIN plus Pre-amplifier with Flex

FEATURES:

- Fiber stub LC-type optical sub-module with flexible circuit attached.
- Design for Small Form Factor transceivers.
- Supports up to 11.3Gbps application.
- Photocurrent monitoring available.
- Single power supply +3.3V.



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

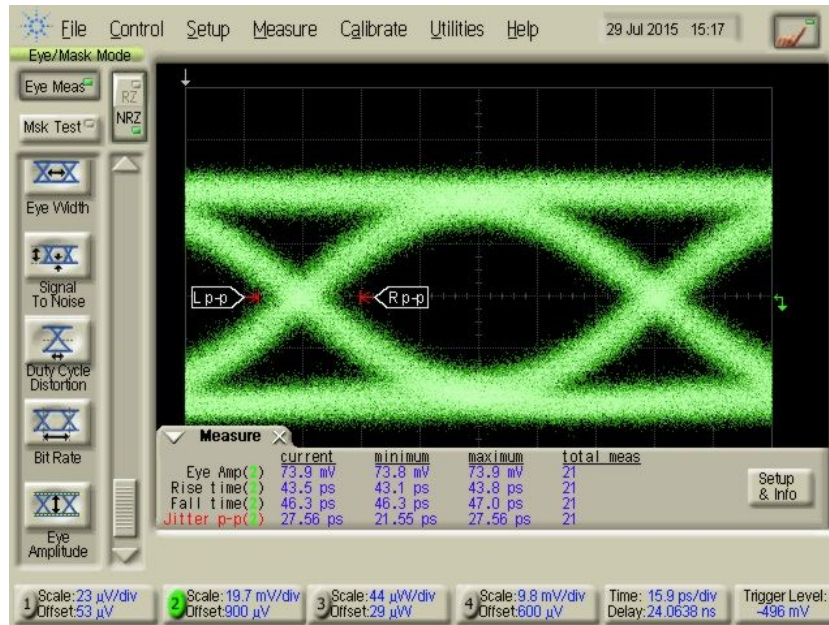
PARAMETERS		SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS
Power Supply		V_{CC}	3.0	3.3	3.6	V	
Supply Current		I_{CC}		27	34	mA	no loads
Differential Responsivity		R_d	1.4	2.2	3.4	mV/ μW	$R_{load} = 100\text{ohm}$, $P = -15\text{dBm}$, $\lambda = 1310\text{nm}$
Single Ended Responsivity		R_s	0.7	1.1	1.7	mV/ 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	$P = -15\text{dBm}$
Low-Frequency Cut off		LF			30	kHz	
Rise / Fall Time(20 % ~ 80 %)		tr/tf			50	ps	$P = -15\text{dBm}$, $\lambda = 1310\text{nm}$
Saturation Power		P_{Sat}	0.5			dBm	
Single Ended Output Impedance		R_O		50		ohm	
Wavelength		λ	1260		1620	nm	
Optical Return Loss		ORL	27			dB	$\lambda = 1310\text{nm}$
Sensitivity					-14.5	dBm	$\lambda = 1310\text{nm}$, @10.3125Gbps PRBS 31, ER=4.5dB, BER=1E-12

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
Flex Attach Temperature		370	$^\circ\text{C}$	10 seconds

Eye Diagram :

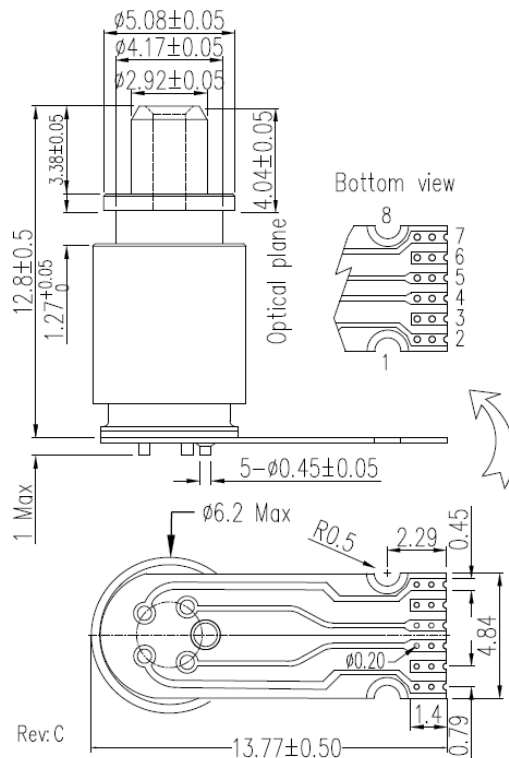
$R_{load} = 50\Omega$, $P = -15\text{dBm}@10.3125\text{Gbps}$, 1310nm, PRBS 31.



$t_r=43.5\text{ps}$, $t_f=46.3\text{ps}$, Jitter p-p=27.56ps

OUTLINE DIMENSIONS:

- Unit: mm

**Pinout:**

Pin no.	TRF-1H59-721 Function
1	Gnd
2	Vcc
3	Gnd
4	Dout(+)
5	Dout(-)
6	Gnd
7	Isource
8	Gnd