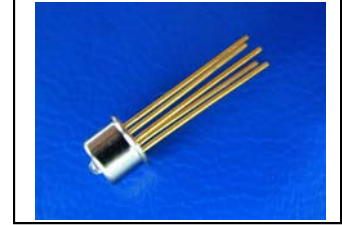


TMC-8D59-731

10Gbps GaAs PIN plus Pre-amplifier

FEATURES:

- Industry standard TO-46 package with long cap lens.
- Optimized for fiber optic application.
- Suitable for short wavelength 10.3125Gbps application.
- Photocurrent monitoring available.
- Single power supply +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	3.3	3.6	V	
Supply Current	I _{CC}		34	45	mA	no loads
Differential Responsivity	R _d	0.44	0.6	1.0	mV/μW	R _{load} = 100ohm, P = -12dBm, λ=850nm
Single Ended Responsivity	R _s	0.22	0.3	0.5	mV/μW	R _{load} = 50ohm, P = -12dBm, λ=850nm
TIA RSSI				1.5	mA	Linear
Small-Signal Bandwidth	BW		7		GHz	P = -12dBm ⁽¹⁾
Low-Frequency Cut off	LF		30		kHz	
Rise / Fall Time(20 % ~ 80 %)	tr/tf		50		ps	P = -12dBm, 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=6dB, BER=1E-12

Notes:

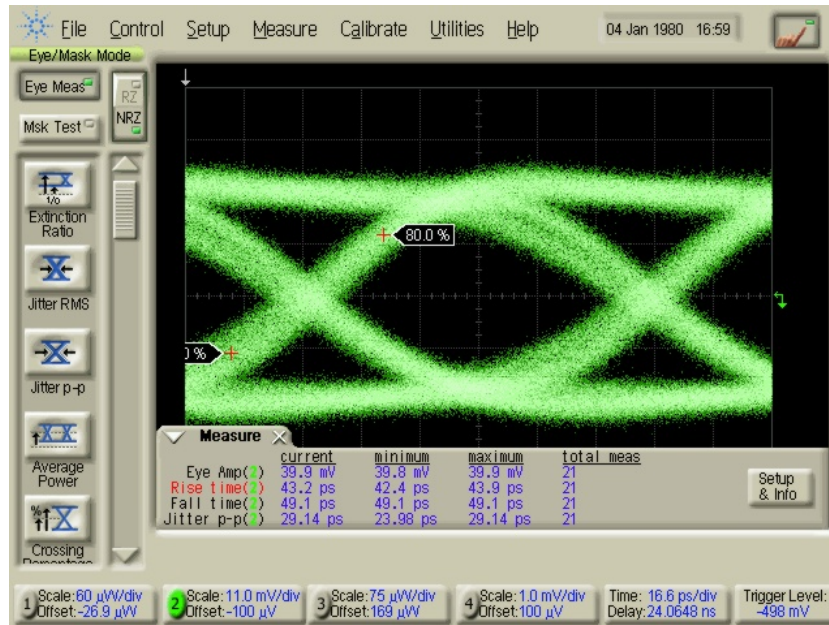
1. The spec and tested data are subject to ROSM level (flexible circuit attached) measurement.

ABSOLUTE MAXIMUM RATINGS:

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

Eye Diagram :

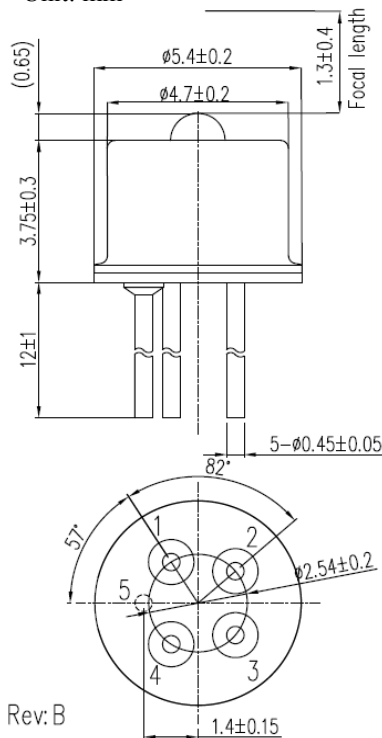
$R_{load} = 50\Omega$, $P = -12\text{dBm}@10.3125\text{Gbps}$, 850nm , PRBS 31.⁽¹⁾



$t_r=43.2\text{ps}$, $t_f=49.1\text{ps}$, Jitter p-p=29.1ps

OUTLINE DIMENSIONS:

- Unit: mm

**Pinout:**

Pin no.	TMC-8D59-731
	Function
1	Dout(+)
2	Vcc
3	Isource
4	Dout(-)
5	Gnd