10Gbps LC Connectorized GaAs PIN-TIA Photodiode with Flex
RLC-P85P8106-3V

Data Sheet

Overview

The Lasermate RLC-P85P8106-3V is a high-speed, GaAs-based photodiode receiver module designed for fiber optic data communication systems operating in the 770nm to 860nm spectral range. The module features an integrated transimpedance amplifier (TIA), an LC receptacle, and a flexible circuit.

Features

- LC-type optical submodule with flexible circuit attached
- Optimized for fiber optic application
- Suitable for short wavelength 10.3125Gbps application
- Photocurrent monitoring available
- Single power supply +3.3V

Specifications

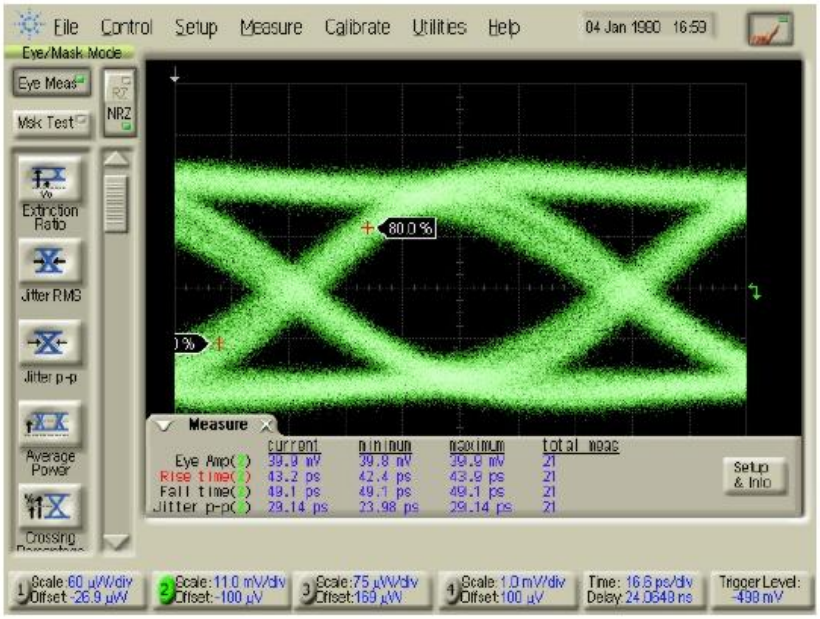
Absolute Maximum Ratings				
Parameters	Min.	Max.	Unit	Conditions
Storage Temperature	-40	100	°C	
Operating Temperature	-40	85	°C	
Lead Solder Temperature		260	°C	10 seconds
Flex Attach Temperature		370	°C	10 seconds

Electro-Optical Characteristics (CW @ T_C = 25°C unless otherwise noted)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Power Supply	V_{CC}	3.0	3.3	3.6	V	
Supply Current	I_{CC}		34	45	mA	no loads
Differential Responsivity	Rd	0.4	0.6	1.0	mV/μW	R_{load}=100ohm, P=-12dBm, λ=850nm
Single Ended Responsivity	Rs	0.2	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
Low-Frequency Cut off	LF		30		kHz	
Rise / Fall Time (20%~80%)	tr/tf		50		ps	P=-12dBm, λ=850nm
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, PRBS31, ER=6dB, BER=1E-12

Typical Characteristics

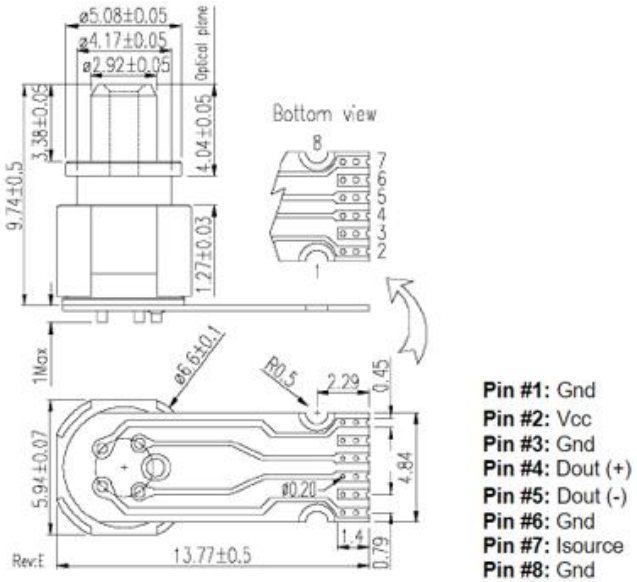
Eye Diagram

R_{load} = 50ohm, P = -12dBm @10.3125Gbps, 850nm, PRBS 31.



tr=43.2ps, tf=49.1ps, Jitter p-p=29.1ps

Outline Dimensions (unit: mm)



Pin #1: Gnd
Pin #2: Vcc
Pin #3: Gnd
Pin #4: Dout (+)
Pin #5: Dout (-)
Pin #6: Gnd
Pin #7: Isource
Pin #8: Gnd

Note: Specifications are subject to change without notice.