



TLC-P85A55GM

5Gbps 850nm VCSEL LC-TOSA with Wide Operation Temperature

Description

The Lasermate TLC-P85A55GM is an 850nm wavelength, Vertical Cavity Surface Emitting Laser (VCSEL) LC-TOSA with wide operation temperature designed for use in >4Gbps data rate operation.

Features

- Bit data rate more than 5Gbps
- High SNR
- Low wavelength drift
- Low threshold current
- High reliability
- Operation temperature range -40°C to 85°C

Applications

- 5Gbps data transmission
- Optical USB
- Active Optical Cable (AOC)
- HDMI
- Sensing applications

Specifications

Absolute Maximum Ratings				
Parameters	Min.	Max.	Unit	Conditions
Storage Temperature	-40	105	°C	
Operating Temperature	-40	85	°C	
Reflow Soldering Temperature		260	°C	10 seconds
Reverse Voltage		5	V	
Maximum Output Power		6	mW	
Maximum Continuous Current		10	mA	
ESD Exposure (Human Body) Model		2K	V	

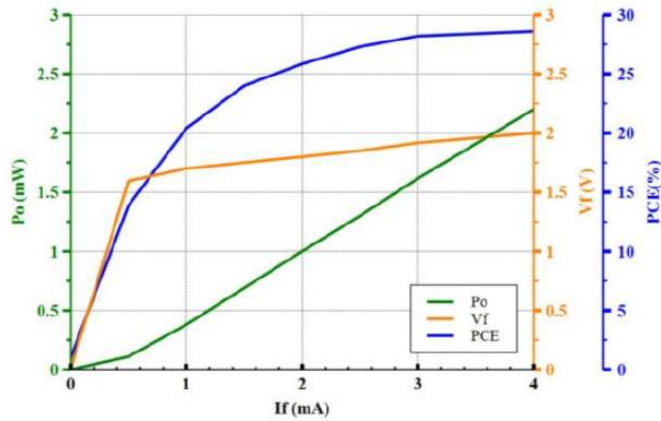
Electro-Optical Characteristics						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Optical Output Power	P_o		2		mW	$I_F=3.7$ mA
Threshold Current	I_{th}		0.5		mA	
Forward Current	I_F		3.7		mA	
Laser Forward Voltage	V_F		1.95		V	$I_F=3.7$ mA
Slope Efficiency	η		0.59		mW/mA	
Peak Wavelength	λ_p	840	850	860	nm	$P_o=2$ mW
Fall Time (20-80%)	t_f		129	132	ps	
Rise Time (20-80%)	t_r		112	118	ps	
Die Size			204x228		um	
Series Resistance	R		90		Ohm	$I_F=3.7$ mA
Beam Angle	θ		25		deg	$I_F=3.7$ mA
Wavelength Temperature Drift			0.07		nm/°C	$I_F=3.7$ mA
Modulation Bandwidth			>4		GHz	

Notes:

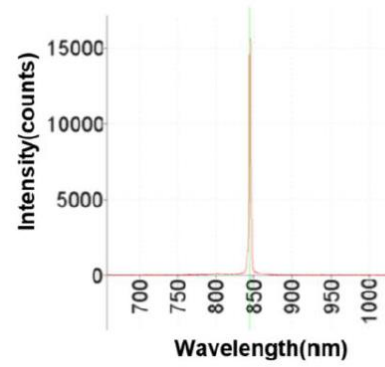
1. Electro-optical characteristics with a package or diffuser would require further evaluation. Values are based on limited sample size and estimated values.

Typical Characteristics

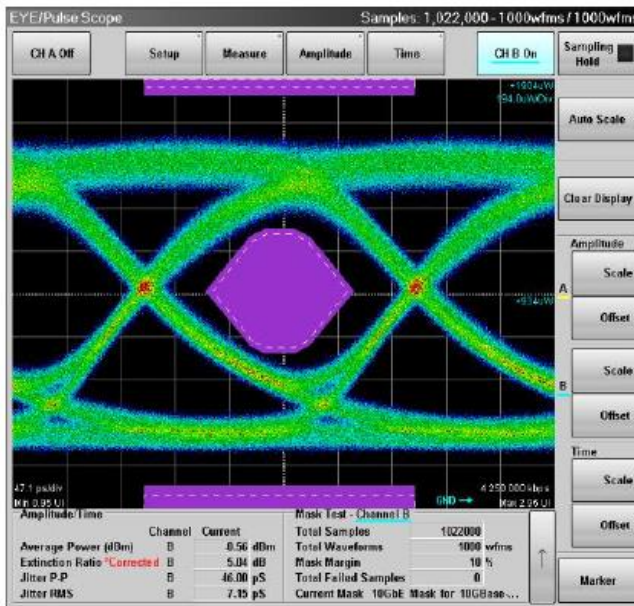
LIV Graph



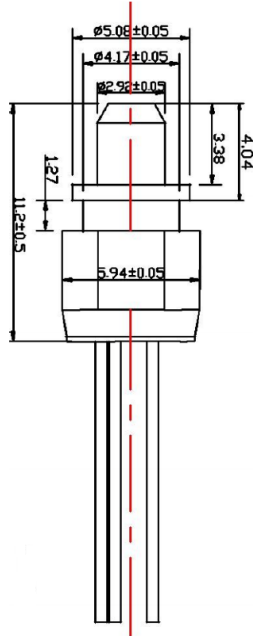
Wavelength



Eye Diagram at 4.25Gbps



Outline Dimensions (unit: mm)



Additional Notes

- Specifications are subject to change without notice.