



Connectorized 2.5Gbps 850nm VCSEL LC-TOSA with Monitor PD, -10~85°C

Part No.TLC-P85A416-3 (Common cathode) | TLC-P85A426-3 (Common anode)

Features

- Pre-aligned LC-type receptacle for 50/125um multi-mode fiber communication
- Design for small form factor transceivers
- Data rate operation from DC to 2.5Gbps
- Operation temperature range -10°C to 85°C
- Common cathode or common anode



Specifications

Absolute Maximum Ratings				
Parameters	Min.	Max.	Unit	Conditions
Storage Temperature	-40	100	°C	
Operating Temperature	-10	85	°C	
Lead Solder Temperature		260	°C	10 seconds
Continuous Forward Current		20	mA	
Continuous Reverse Voltage		10	V	

Electro-Optical Characteristics						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold Current	I_{th}		1.5	2.5	mA	
Forward Voltage	V_F	1.6	1.8	2.1	V	$I_F=6\text{ mA}$
Slope Efficiency	η	0.05	0.08	0.12	mW/mA	$I_F=6\text{ mA}$
Series Resistance	R_S	30	45	60	Ω	$I_F=6\text{ mA}$
Wavelength	λ_P	830	850	860	nm	$I_F=6\text{ mA}$ ⁽³⁾
Rise/Fall Time	t_r/t_f			0.15	ns	$I_F=6\text{ mA}$
Spectral Width (RMS)	$\Delta\lambda$			0.85	nm	$I_F=6\text{ mA}$
Relative Intensity Noise	RIN		-130	-120	dB/Hz	$I_F=6\text{ mA}$, $f=1\text{GHz}$
PD Monitor Current	I_M	200		800	μA	$V_R=5\text{V}$, $P_{OC}=350\mu\text{W}$ ⁽²⁾
PD Dark Current	I_d			20	nA	$V_R=5\text{V}$
PD Capacitance	C_M		12		pF	$V_{rm}=0\text{V}$

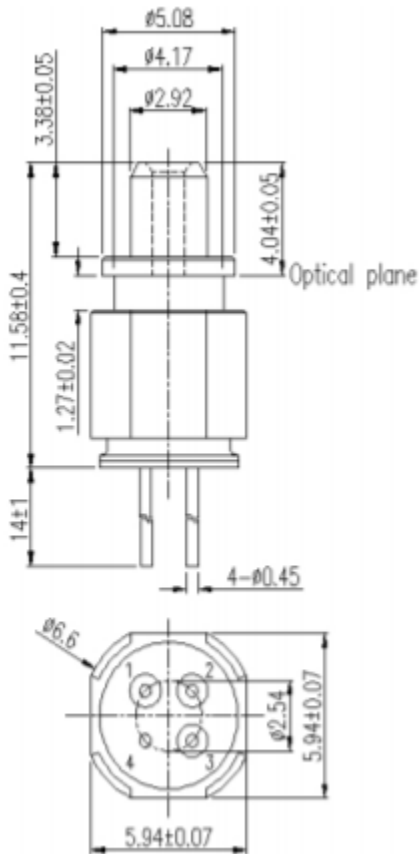
Notes:

1. All parameters except mentioned are measured at $I_F=6\text{ mA}$, 25°C, CW.
2. P_{OC} =Coupled Optical Power, measured with a multi-mode 50/125um fiber and ambient temperature 25°C.
3. Minimum and Maximum values are valid over the entire ambient temperature range.

Thermal Characteristics						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
I_{th} Temperature Variation	ΔI_{th}	-1.5		2	mA	$T_A=0\sim 70^\circ\text{C}$
η Temperature Coefficient	$\Delta\eta/\Delta T$	-0.6	-0.25		%/°C	$T_A=0\sim 70^\circ\text{C}$, $I_F=6\text{ mA}$
λ_P Temperature Coefficient	$\Delta\lambda_P/\Delta T$		0.06		nm/°C	$T_A=0\sim 70^\circ\text{C}$, $I_F=6\text{ mA}$



Outline Dimensions (unit: mm)



Pin Configuration

TLC-P85A416-3		TLC-P85A426-3	
Number	Function	Number	Function
1	VCSEL Anode	1	VCSEL Cathode
2	VCSEL Cathode/PD Anode	2	VCSEL Anode/PD Cathode
3	PD Cathode	3	PD Anode
4	Case	4	Case

Note: Specifications are subject to change without notice.