



VCT-F85A54-10

10Gbps 850nm VCSEL in TO-46 Package

Description

The Lasermate VCT-F85A54-10 is an 850nm wavelength, Vertical Cavity Surface Emitting Laser (VCSEL) diode in TO46 package with flat window designed for use in 10Gbps datacom applications.



Features

- Industry TO-46 package of flat window for multi-mode fiber communication
- Packaged with monitoring PD
- High coupling efficiency for multi-mode fibers
- Isolation pin-out configuration

Applications

- Support from DC to 10.3125Gbps data rate operation
- High speed Data communications
- Gigabit ethernet
- Fiber channel

Specifications

Absolute Maximum Ratings				
Parameters	Min.	Max.	Unit	Conditions
Storage Temperature	-40	100	°C	
Operating Temperature	-10	85	°C	
Peak Continuous Forward Current		10	mA	
Laser Reverse Voltage		10	V	

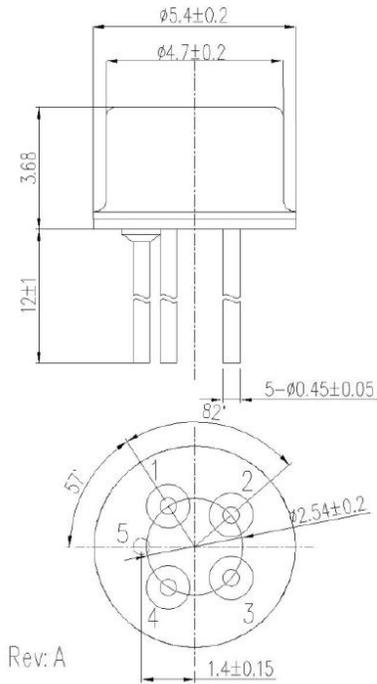
Electro-Optical Characteristics						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold Current	I_{th}		0.8	1.5	mA	$T_A=25^{\circ}C$
			1.3	1.85		$T_A=85^{\circ}C$
Slope Efficiency	η	0.14		0.27	mW/mA	$I_F=6\text{ mA}$
Wavelength	λ_P	840	850	860	nm	$I_F=6\text{ mA}^{(2)}$
Forward Voltage	V_F	1.5		2.6	V	$I_F=6\text{ mA}$
Series Resistance	R_s		100		Ω	$I_F=6\text{ mA}, T_A=25^{\circ}C$
PD Dark Current	I_d			20	nA	$V_R=5V, T_A=25^{\circ}C$
PD Capacitance	C_{PD}		12		pF	$V_R=3V$
Monitor Current	I_M	100		900	uA	$V_R=5V, P_{oc}=900\text{uW}$

Notes:

1. All parameters except mentioned are measured at $I_F=6\text{ mA}$, $25^{\circ}C$, CW.
2. 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	mA	$T_A= -10\sim 85^{\circ}C$
η Temperature Coefficient	$\Delta\eta/\Delta T$		-0.5		%/°C	$T_A= -10\sim 85^{\circ}C, I_F=6\text{ mA}$
λ_P Temperature Coefficient	$\Delta\lambda_P/\Delta T$		0.07		nm/°C	$T_A= -10\sim 85^{\circ}C, I_F=6\text{ mA}$

Outline Dimensions (unit: mm)



Pin Configuration

Number	Function
1	VCSEL Anode
2	PD Cathode
3	PD Anode
4	VCSEL Cathode
5	Case

Additional Notes

- The inherent design of this component causes it to be sensitive to electrostatic discharge (ESD). To prevent ESD-induced damage and/or degradation to equipment, take normal ESD precautions when handling this product.
- Specifications are subject to change without notice.