



VCT-F85A42-3

1.25/2.5Gbps 850nm VCSEL in TO-46 Package

Description

The Lasermate VCT-F85A42-3 is an 850nm wavelength, Vertical Cavity Surface Emitting Laser (VCSEL) diode in TO46 package with flat window designed for use in 2.5Gbps datacom applications.



Features

- Industry TO-46 package with flat window for SFF (small form factor)
- Packaged with attenuating coating and monitoring PD
- High coupling efficiency for multi-mode fibers
- High performance of noise and jitter characteristics
- Common anode configuration

Applications

- Design 2.5Gbps data rate operation
- High speed Data communications
- Gigabit ethernet
- Fiber channel

Specifications

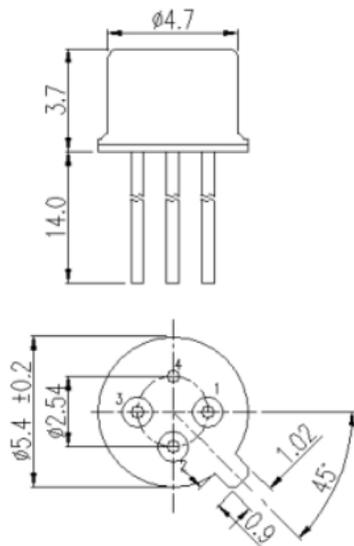
Absolute Maximum Ratings				
Parameters	Min.	Max.	Unit	Conditions
Storage Temperature	-40	125	°C	
Operating Temperature	-10	85	°C	
Lead Solder Temperature		260	°C	10 seconds
Continuous Forward Current		12	mA	
Continuous Reverse Voltage		5	V	10uA

Electro-Optical Characteristics (T _a =25°C unless otherwise stated)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold Current	I _{th}		2	2.75	mA	
Slope Efficiency	η	0.08	0.12	0.16	mW/mA	I _F =6 mA
Wavelength	λ _P	830	850	860	nm	I _F =6 mA ⁽²⁾
Forward Voltage	V _F	1.6	1.8	2.1	V	I _F =6 mA
Rise Time (20%~80%)	T _r			0.2	ns	Pre-biased above I _{th}
Fall Time (20%~80%)	T _f			0.2	ns	Pre-biased above I _{th}
Series Resistance	R _s	30	45	60	Ω	I _F =6 mA
Spectral Width (RMS)	Δλ			0.85	nm	I _F =6 mA
Relative Intensity Noise	RIN		-130	-122	dB/Hz	I _F =6 mA, f=1GHz
Monitor Current	I _M	200		800	uA	P _o =500uW

Notes:

1. All parameters except mentioned are measured at I_F=6 mA, 25°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		1.5	mA	T _A =0~70°C
V _F Temperature Coefficient	ΔV _F /ΔT		-1.5		mV/°C	T _A =0~70°C, I _F =6 mA
η Temperature Coefficient	Δη/ΔT	-0.6			%/°C	T _A =0~70°C, I _F =6 mA
λ _P Temperature Coefficient	Δλ _P /ΔT		0.06		nm/°C	T _A =0~70°C, I _F =6 mA

Outline Dimensions (unit: mm)**Pin Configuration**

VCT-F85A42-3	
Number	Function
1	VCSEL Cathode
2	VCSEL Anode/PD Cathode
3	PD Anode
4	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.