



## T85V-P-FAS5x-10G

### 10Gbps 850nm VCSEL Pigtailed FC/APC and OM3 Patch Cord Fiber

#### Description

The Lasermate T85V-P-FAS5x-10G is an 850nm wavelength, Vertical Cavity Surface Emitting Laser (VCSEL) pigtailed with FC/APC connector and OM3 patch cord fiber designed for use in 10Gbps data rate operation.

#### Features

- Pigtailed with FC/APC Connector for multi-mode fiber communication
- Support up to 10.3125Gbps data rate operation
- Design for small form factor transceivers
- Isolation pin-out configuration
- Comply with flexible interconnect
- OM3 patch cord fiber

#### Applications

- 850nm 10Gbps data rate application

#### Product Overview

The following table lists the available part numbers, as well as the product description of each of the part numbers.

Part Number	Description
T85V-P-FAS51-10G	10Gbps 850nm VCSEL Pigtailed FC/APC, OM3 Patch Cord Fiber, Common Anode Pin
T85V-P-FAS52-10G	10Gbps 850nm VCSEL Pigtailed FC/APC, OM3 Patch Cord Fiber, Common Cathode Pin



## Specifications

Absolute Maximum Ratings			
Parameters	Symbol	Value	Unit
Storage temperature	Tstg	-40 to +100	°C
Operating case temperature	Top	-10 to +85	°C
Peak Continuous Forward current	I <sub>F</sub>	10	mA
Soldering temperature	Stemp	260	°C
Soldering time	Stime	10	sec

Electro-Optical Characteristics (CW at T <sub>c</sub> =25°C, unless otherwise noted)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold Current	I <sub>th</sub>		1.0	1.5	mA	T <sub>a</sub> =25°C
			2.0	2.5		T <sub>a</sub> =85°C
Slope Efficiency	η	0.09		0.17	mW/mA	I <sub>F</sub> =6mA
Rise/Fall Time (20%-80%)	t <sub>r</sub> /t <sub>f</sub>		50		ps	I <sub>F</sub> =6mA, ER=5dB
Wavelength	λ <sub>P</sub>	840	850	860	nm	I <sub>F</sub> =6mA <sup>(2)</sup>
Forward Voltage	V <sub>F</sub>	1.7		2.4	V	I <sub>F</sub> =6mA
Spectral Bandwidth (RMS)	Δλ			0.65	nm	I <sub>F</sub> =6mA, T <sub>a</sub> =-10~85°C
Relative Intensity Noise	RIN			-128	db/Hz	I <sub>F</sub> =6mA, f= 1 GHz
Monitor Current	I <sub>m</sub>	30		500	μA	V <sub>R</sub> =5V, P <sub>OC</sub> =600μW <sup>(3)</sup>
PD Dark Current	I <sub>d</sub>			20	nA	V <sub>R</sub> =5V, T <sub>a</sub> =25°C
PD Capacitance	C <sub>M</sub>		12		pF	V <sub>R</sub> =3V, f= 1 MHz

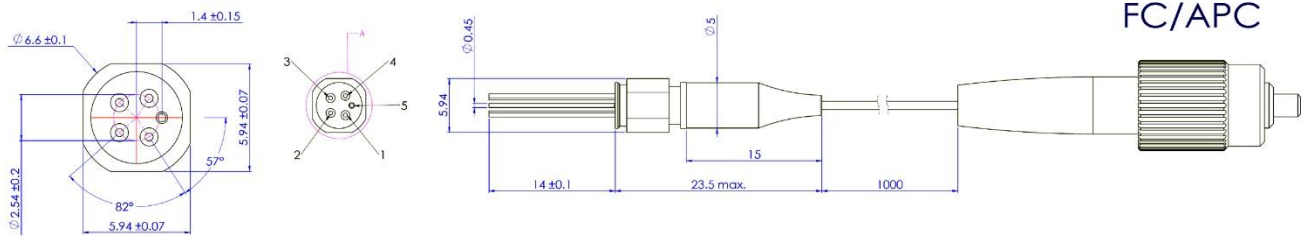
Thermal Characteristics						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
I <sub>th</sub> Temperature Variation	ΔI <sub>th</sub>			1.5	mA	T <sub>a</sub> =-10~85°C
η Temperature Coefficient	Δη/ΔT		-0.4		%/°C	T <sub>a</sub> =-10~85°C, I <sub>F</sub> =6mA
λ <sub>P</sub> Temperature Coefficient	ΔP/ΔT		0.07		nm/°C	T <sub>a</sub> =-10~85°C, I <sub>F</sub> =6mA
Tracking Error	TE	-1.5		1.5	dB	T <sub>a</sub> =-10~85°C <sup>(4)</sup>
Series Resistance	R <sub>S</sub>		70	85	Ohm	T <sub>a</sub> =25°C, I <sub>F</sub> =6mA
			60			T <sub>a</sub> =85°C, I <sub>F</sub> =6mA

### Notes:

1. All parameters are measured at I<sub>F</sub>=6mA, 25°C unless otherwise stated.
2. Minimum and Maximum values are valid over the entire ambient temperature range.
3. P<sub>OC</sub>=Coupled Optical Power, be measured with a multi-mode 50/125μm fiber and ambient temperature 25°C.
4. CW, I<sub>m</sub> Constant (@P<sub>o</sub>= I<sub>th</sub>+4mA, 25°C), TE=10log [(P<sub>o</sub> @T<sub>a</sub>)/(P<sub>o</sub>@25°C)]

## Outline Dimensions (unit: mm)

### Pigtailed TOSA



### Pin Configuration

Part Number	T85V-P-FAS51-10G	T85V-P-FAS52-10G
Number	Function	Function
1	VCSEL Cathode	VCSEL Anode
2	PD Cathode	PD Cathode
3	PD Anode	PD Anode
4	VCSEL Anode	VCSEL Cathode
5	Case	Case

Note: Specifications are subject to change without notice.