



TST-M85A426-2

1.25Gbps 850nm VCSEL in ST Metal Receptacle with Monitor PD

Data Sheet



Description

The Lasermate TST-M85A426-2 is an 850nm Vertical Cavity Surface Emitting Laser (VCSEL) packaged in a metal ST-type receptacle. It is pre-aligned for multi-mode fiber communication and includes a monitoring photodiode. The module supports data rates from DC up to 1.25Gbps for reliable fiber optic transmission.

Features

- Industry standard metal ST-type connector
- Pre-aligned for multi-mode fiber communication
- Integrated monitoring photodiode (PD)
- Data rate operation from DC to 1.25Gbps

Applications

- 1.25Gbps fiber optic communication
- Multi-mode fiber systems
- Industrial and telecom data links

Specifications

Absolute Maximum Ratings				
Parameters	Min.	Max.	Unit	Conditions
Storage Temperature	-40	85	°C	
Operating Temperature	0	70	°C	
Lead Solder Temperature		260	°C	10 seconds
Continuous Forward Current		20	mA	
Continuous Reverse Voltage		5	V	

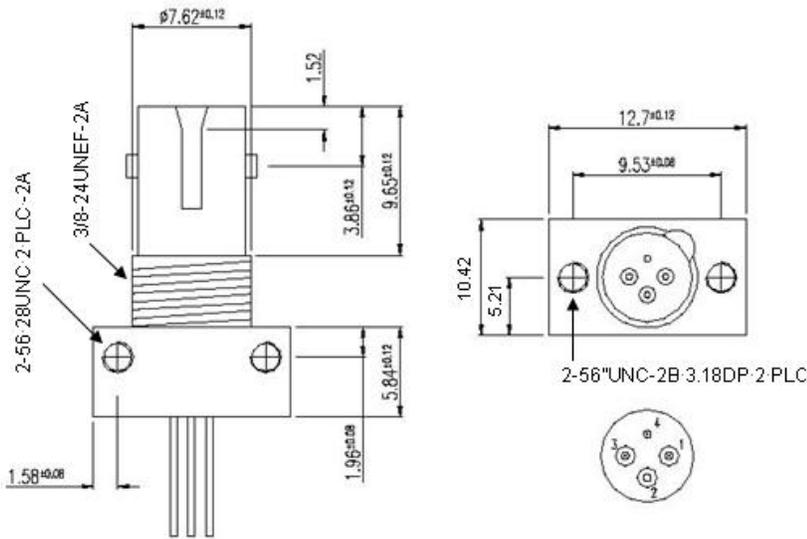
Electro-Optical Characteristics						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold Current	I_{th}		2	3.5	mA	
Forward Voltage	V_F	1.7	1.9	2.2	V	$I_F=6$ mA
Breakdown Voltage	V_{BD}	5	14		V	$I_R=10$ uA
Slope Efficiency	η	0.03		0.12	mW/mA	$I_F=6$ mA
Series Resistance	R_S	35	45	65	Ω	$I_F=6$ mA
Wavelength	λ_P	830	850	860	nm	$I_F=6$ mA
Rise Time/Fall Time (20%~80%)	T_r		150/200		ps	$I_b = I_{th}$, Extinction Ratio >10dB
Spectral Width (RMS)	$\Delta\lambda$			0.85	nm	$I_F=6$ mA
Relative Intensity Noise	RIN		-130	-122	dB/Hz	$I_F=6$ mA, $f=1$ GHz
Monitor Current	I_M		500		uA	$P_{OC}=350$ uW ⁽²⁾

Notes:

1. The standard product is specified for using on GI 62.5/125um MMF.
2. Rise Time and Fall Time are sensitive to the driving circuits.

Thermal Characteristics						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
I_{th} Temperature Variation	ΔI_{th}	-2.5		2.5	mA	$T_A=0\sim 70^\circ\text{C}$
η Temperature Coefficient	$\Delta\eta/\Delta T$			-0.6	%/°C	$T_A=0\sim 70^\circ\text{C}$, $I_F=6$ mA
λ_P Temperature Coefficient	$\Delta\lambda_P/\Delta T$		0.06		nm/°C	$T_A=0\sim 70^\circ\text{C}$, $I_F=6$ mA

Outline Dimensions (unit: mm)



Pin Configuration

Pin Number	Function
1	VCSEL Cathode
2	VCSEL Anode/PD Cathode
3	PD Anode
4	Case

Additional Notes

- The VCSEL is a class IIIb laser in the safety standard ANSI Z136.1 and should be treated as a potential eye hazard.
- Specifications are subject to change without notice.

