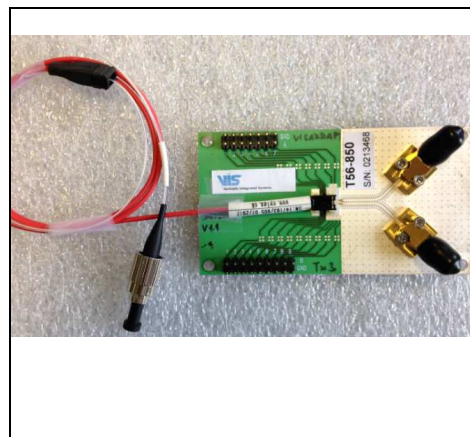


## Up to 56 Gbit/s NRZ 850nm VCSEL Single channel optical transmitter



Product Code: T56-850TB

Preliminary

### Product Description

The T56-850 transmitter optical subassembly combines an 850nm VCSEL and an optional driver IC integrated on a test board and fiber coupled with a 50/125  $\mu\text{m}$  multimode fiber. The T56-850nm is designed for high speed data communication applications. The device is configured for differential drive and a controlled impedance circuit is available for optimum performance.

### Features

- up to 56 Gbit/s data rate
- 50/125  $\mu\text{m}$  fiber coupled testboard
- 1.85 mm electrical RF connectors
- FC/PC optical connector

### Applications

- CEI-56G-NRZ (XSR/USR/MR/LR)
- Proprietary optical interconnects
- Research and development

Parameter	Typical (PD chips)	Notes
Emission Wavelength	850 nm	
Data rate	up to 56 Gbit/s	
Supply Voltage	3.3V	
Power consumption	250 mW	

All product specifications and descriptions are subject to change without notice.

### Electro-optical characteristics (at T<sub>case</sub> = 25 °C)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
VCSEL						
Peak emission wavelength	$\lambda$	P <sub>out</sub> = 0.5mW	840	850	860	nm
Case operating temperature	T <sub>op</sub>		10		50	°C
RMS spectral width	$\Delta\lambda$	P <sub>out</sub> = 0.5mW			0.4	nm
$\lambda_p$ temperature coefficient	$\Delta\lambda_p$			0.06		nm/°C
Relative intensity noise	RIN	56 Gbit/s			130	dB/Hz
Rise/Fall time	T <sub>r</sub>	P <sub>out</sub> = 0.5mW		8		psec
	T <sub>f</sub>	56 Gbit/s		9		psec
Threshold current	I <sub>th</sub>	20-80%		0.7		mA
I <sub>th</sub> temp variation	$\Delta I_{th}$	T = 10 °C to 50 °C		+1.0	+2.0	mA
Laser forward voltage	V <sub>f</sub>	P <sub>out</sub> = 0.5mW		2.2		V

### Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Storage temperature	T <sub>st</sub>	5	55	°C
Laser forward current 85°C	I <sub>F</sub>		7	mA
Laser reverse voltage	V <sub>R, RD</sub>		-2	V
ESD (Human Body Model)	T <sub>r</sub>		Class 1	

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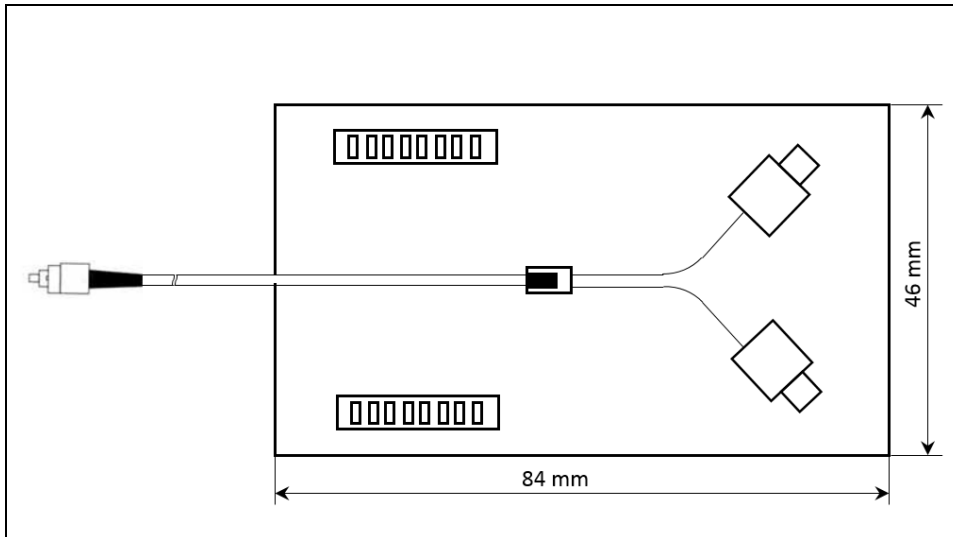
# Datasheet

T56-850TB



Vertically Integrated Systems

## Dimensions



Attention: As soon as supply voltage of 3.3 V is applied the laser will start lasing!

RoHS  
Compliant



LASER RADIATION. DO NOT VIEW  
DIRECTLY WITH OPTICAL  
INSTRUMENTS  
CLASS 1M LASER PRODUCT

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