



## 2.5Gb/s Mini uncooled optical transmitter module

### **TX3S351-002**

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#### Features

- 1310nm DFB-LD , built-in isolator
- Single-ended and differential output selectable
- Very low dispersion penalty up to 80km
- With all system alarming function
- DIP24pin package
- Pin function compatible with multi-source standard

#### Application

- The module is applied to STM-16/OC-48 fiber transmission system

#### Standards

- G.957&2.5G MSA

## Absolute Maximum Ratings

Parameter	Symbol	Unit	Min	Max
Case Operating Temperature Range	Tc	°C	0	+60
Storage Temperature Range	Ts	°C	-20	+85
Relative Humidity	RH	%	-	80
Power Supply Voltage	Vcc	V	-	6
Lead Solder Temperature	-	°C	-	260
Lead Solder Duration	-	S	-	10
Fiber Yield Strength	-	kgf	-	1
Fiber Bend Radius	-	mm	10	-

## Specifications

*(tested under recommended operating conditions , unless otherwise noted)*

Parameter	Symbol	Unit	Min	Typ	Max	Test condition
<b>Electrical Characteristics</b>						
Operating Voltage	Vop	V	+4.75	+5.0	+5.25	
Supply Current	Icc	mA	150	-	300	
Single Ended Data Input Swing	-	mV	400	500	1000	
Single Ended Clock Input Swing	-	mV	400	500	1000	
Signal Level(TTL)	-	V				Active Low
<b>Optical transmitter Characteristics</b>						
Data Rate		Gbps	-	2.488	-	
Launch Optical Power	Po	dBm	-2	-	+3	CW
Center Wavelength Range	$\lambda_c$	nm	-	1310	-	
Extinction Ratio	EX	dB	8.2	9.5	-	
Spectral Width	$\Delta\lambda$	nm	-	-	1	
Side Mode Suppression Ratio	SMSR	dB	30	-	-	
Eye Diagram	-	-	ITU-TG.957 STM-16			
Dispersion Penalty	-	dB	-	-	2	

## Pin Description

Pin	Name	Description	Pin	Name	Description
1	NC		13	Vcc	Positive power supply(+5V)
2	P-MON	LD output power indication	14	NC	
3	B-MON	LD bias current monitor	15	GND	Ground
4	LD enable	COMS Active Low	16	Data(+)	Positive Data Output
5	ClockSelect	COMS Active Low	17	GND	Ground
6	GND	Ground	18	Data(-)	Negative Data Output

7	NC			19	GND	Ground
8	Fault Alarm	COMS	Active Low	20	Clock(+)	Positive Clock Output
9	NC			21	GND	Ground
10	NC			22	Clock(-)	Negative Clock Output
11	NC			23	GND	Ground
12	NC			24	Vcc	Positive power supply(+5V)

## Interface.

Data input and clock signal

Internally AC coupled, 50Ω input impedance. The peak-peak Voltage of single-ended input is no less than 250mV. When using single-ended input, 50Ω resistance of the reverse end can be grounded.

Clock selection: Active Low

When CMOS low, clock function is enable.

LD enable: Active Low

When CMOS low, LD operates..

Fault alarm: Active Low

When CMOS low, status FAULT announced

LD output power indication (BFM)

$$VBFM (V) = W(mW)$$

VBFM (Voltage output of Pin2)

W: LD optical power output

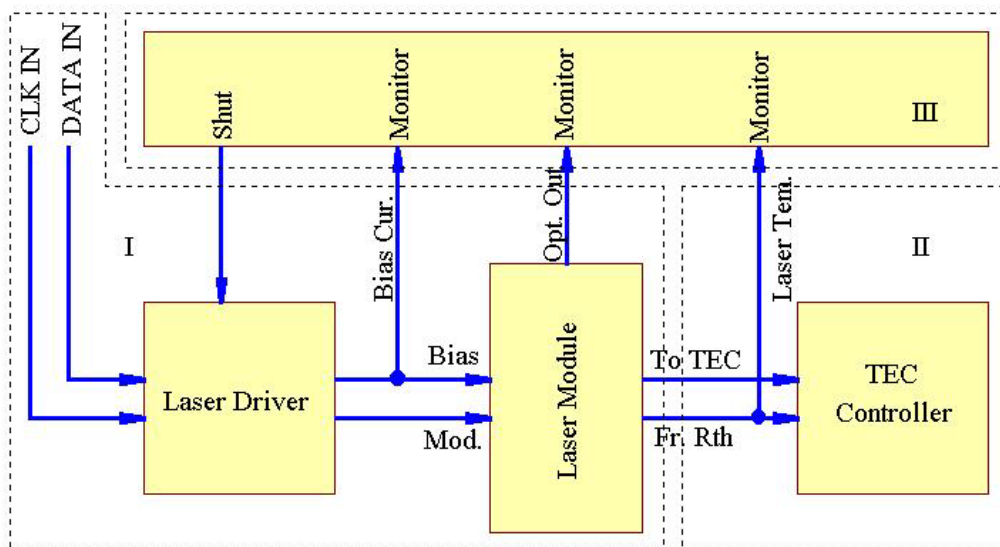
Bias indication (BIM)

$$VBIM (V) = 100 * IBIAS (mA)$$

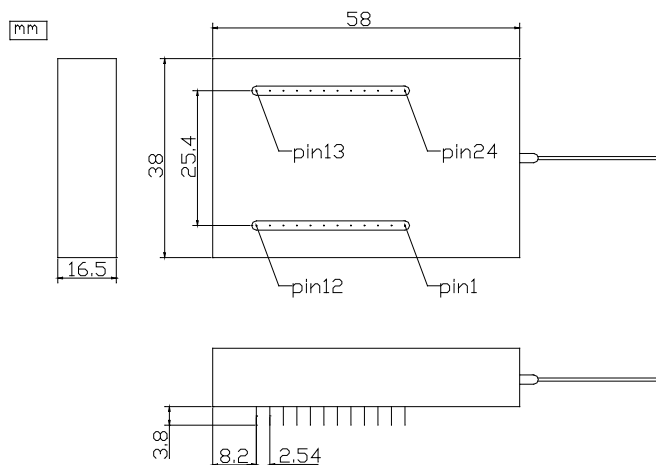
VBIM(Voltage output of Pin3)

IBIAS: Bias current

## Block diagram



## Package Outline



## Ordering Information

Part No	Specification					Application
	Package	Datarate	Laser	Optical Power	Reach	
TX3S351-002	24Pin DIP	2.5G	1310nm DFB	-2 ~ +3dBm	80km	SDH/SONET

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