

## 0-10Mb/s 单模单纤光收发一体模块

### 0-10M/s TTL SINGLE MODE BI-DIRECTIONAL SINGLE FIBER TRANSCEIVER

#### 特点:

- 双波长复用单模单纤收发一体模块，发射、接收独立工作
- 发射器件工作波长可分别选用 1310nm FP 和 1550nm FP 激光器
- +3.3V /+5V 供电
- SC/FC/ST 插拔式或尾纤型光接口
- 接口电平兼容标准 TTL 电平和 CMOS 电平
- 标准 1×9 管脚封装
- 传输速率低至直流，上限速率可选，最高可达 10Mb/s



#### Feature:

- Single Fiber Bi-Directional SM optical Transceiver
- Transmitter section Selects 1310nm FP and 1550nm FP Laser
- Standard +3.3V /+5V Power Supply
- SC/FC/ST receptacle optical interface and pigtail optical interface
- Standard TTL data output with signal detect indication, compatible with CMOS level
- Standard 1×9 package
- Super low power consumption, applied to some special requirement
- Optional transmission bit rate with down to 0bps and up to 10Mbps

#### 应用:

- 适用于 10Mb/s 以下的电力控制和工业控制的 RS232、RS485 等光电转换设备。

#### Applications

- Applied to RS232、RS485 optical-electrical converter for electric power control and industrial control with bit rate up to 10Mbps

#### 技术指标: Specifications

参数 Parameter	条件 Condition	最小 Min	典型 Typ	最大 Max
工作波长 (nm) Wavelength	1310nm	1270	1310	1350
	1550nm	1530	1550	1570
电源电压 (V) Power Supply	Vcc	3.135	3.3	3.465
		4.75	5	5.25
信号电平 Signal Level	TTL		0~4	
	LVTTL		0~3	
消光比(dB)Extinction Ratio	EX	10		
发送电流 (mA) Current of transmitter section	Vcc=5V			15
	Vcc=3.3V			15
接收电流 (mA) Current of receiver section	Vcc=5V			2
	Vcc=3.3V			2

**速率、激光器、模式及波长、发射功率、灵敏度与传输距离**  
**Data Rate, LD, Wavelength and Mode, Po, Sen, Reach**

速率 Data rate	激光器 LD	模式及波长 Wavelength and Mode	输出平均光功率 P0 (dBm)	灵敏度 Sensitivity (dBm)	传输距离 Reach
500Kb/s	1310nm FP	SM 1310nm	≥-8	≤-21	20km
	1550nm FP	SM 1550nm	≥-10		
1Mb/s	1310nm FP	SM 1310nm	≥-8	≤-21	20km
	1550nm FP	SM 1550nm	≥-10		
2Mb/s	1310nm FP	SM 1310nm	≥-8	≤-17	20km
	1550nm FP	SM 1550nm	≥-8		
10Mb/s	1310nm FP	SM 1310nm	≥-8	≤-17	20km
	1550nm FP	SM 1550nm	≥-8		

**极限值 Absolute Maximum Ratings**

工作温度 (°C) Operating temperature (°C)	0 ~ +70 (商业级) Commercial Level -40 ~ +85 (工业级) Industrial Level	引线焊接温度 (°C) Lead soldering temperature (°C)	<260
储存温度 (°C) Storage temperature (°C)	-40 ~ +85	引线焊接时间 (Sec) Soldering duration (Sec)	<10

## 光模块管脚定义

Pin definitions for transceiver

管脚 Pin	管脚名称 Name	电 平 Level	说 明 Description
1	GNDR		接收部分接地脚 Signal ground for Receiver
2	RD	TTL/LVTTL	接收部分数据输出 Data output of receiver section
3	NC		不接 No connect
4	SD	TTL/LVTTL	接收部分无光告警。 Signal Detect
5	VccR		接收部分正电源 Power supply for receiver
6	VccT		发送部分正电源 Power supply for transmitter
7	NC		不接 No connect
8	TD	TTL/LVTTL	发送部分数据输入 Data input of transmitter section
9	GNDT		发送部分接地脚 Signal ground for Transmitter

备注：带 RS485 功能与不带 RS485 功能注释

带 RS485 功能：光模块正常工作的状态下，如果检测到无光，PIN2 的电位强制性置高

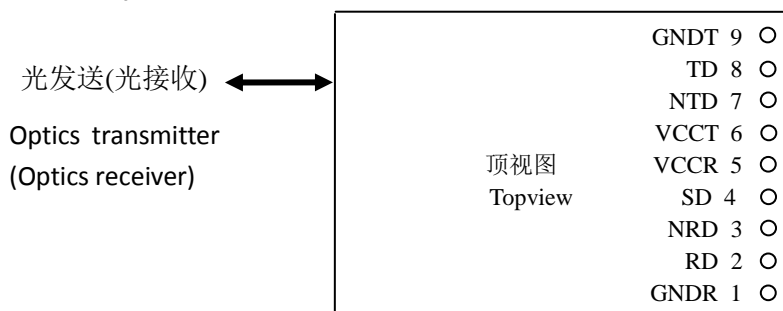
不带 RS485 功能：光模块正常工作的状态下，如果检测到无光，PIN2 的电位不会强制性置高

Remark: RS485 function

With RS485 function: when the transceiver works normally, if no light detected, PIN2 will be set as a high voltage mandatory.

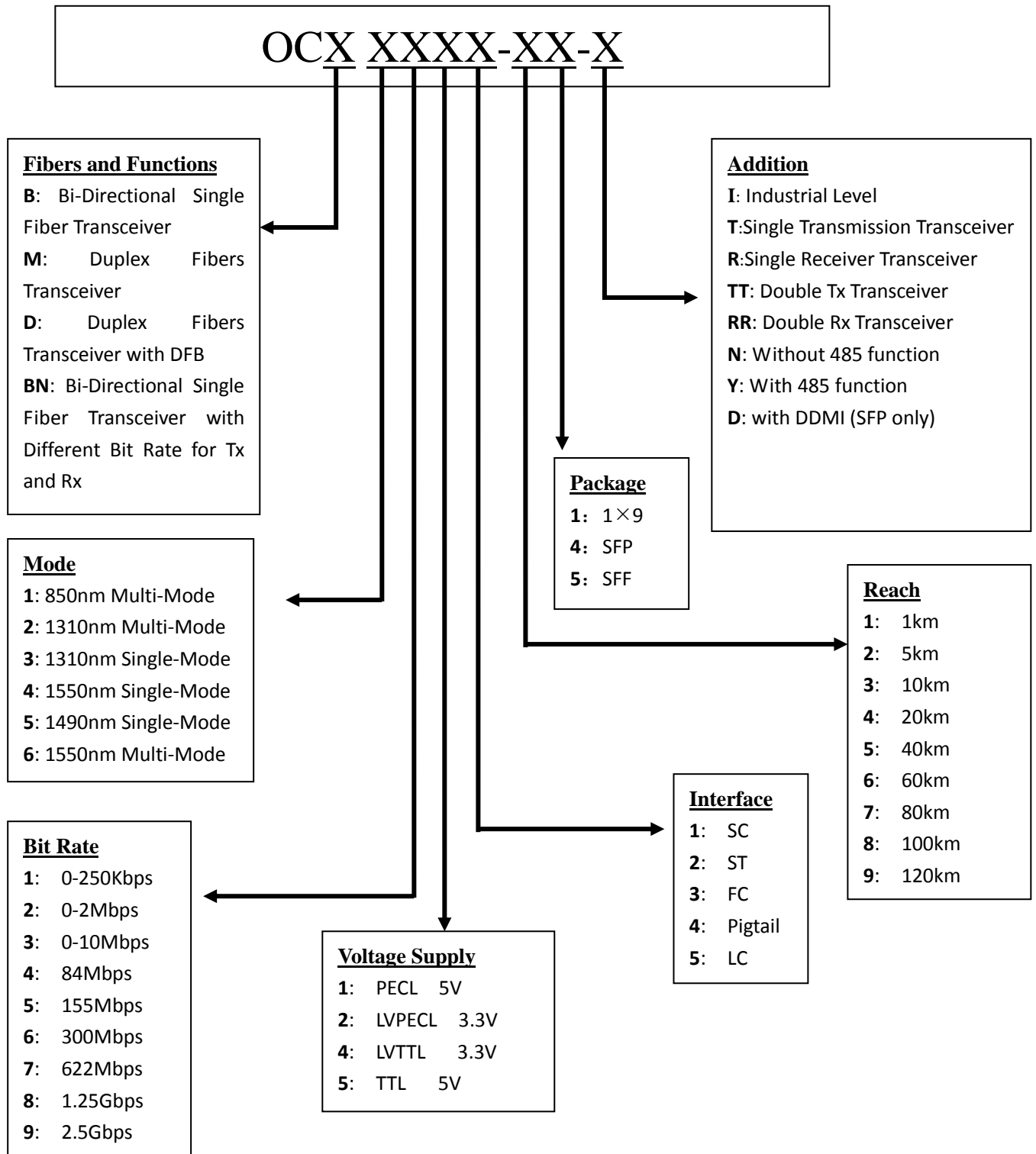
Without RS485 function: when the transceiver works normally, if no light detected, PIN2 won't be set as a high voltage.

## 顶视图 Topview



## 订购信息

### Order Information

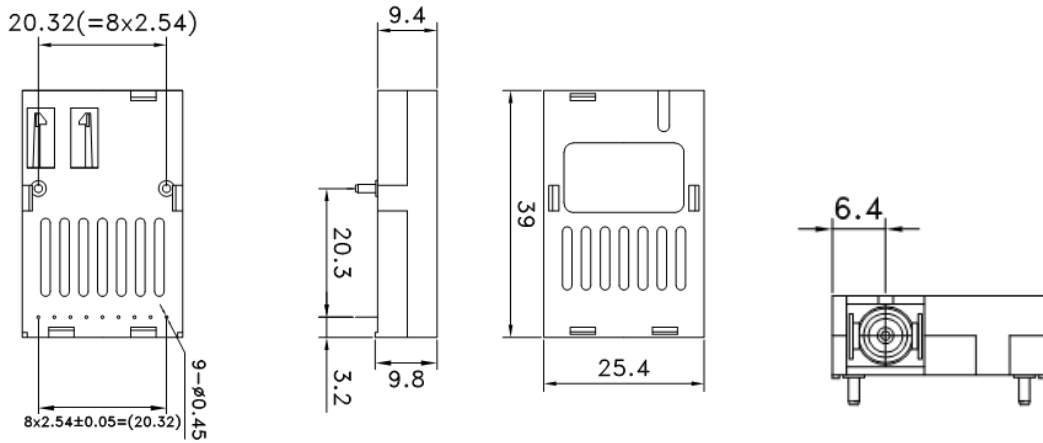


## 外形尺寸及接口定义

### Dimension and optical interface

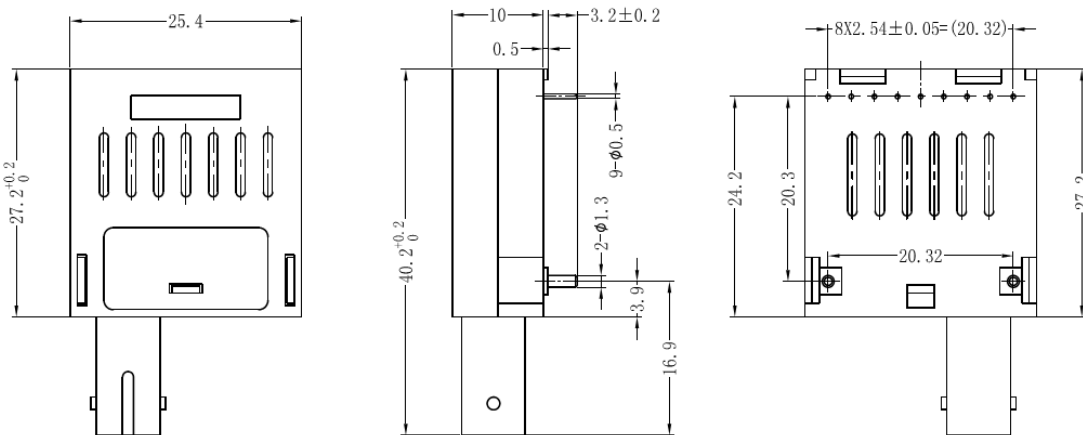
BIDI 边开口 SC 型接口:

BIDI SC optical interface on the edge:



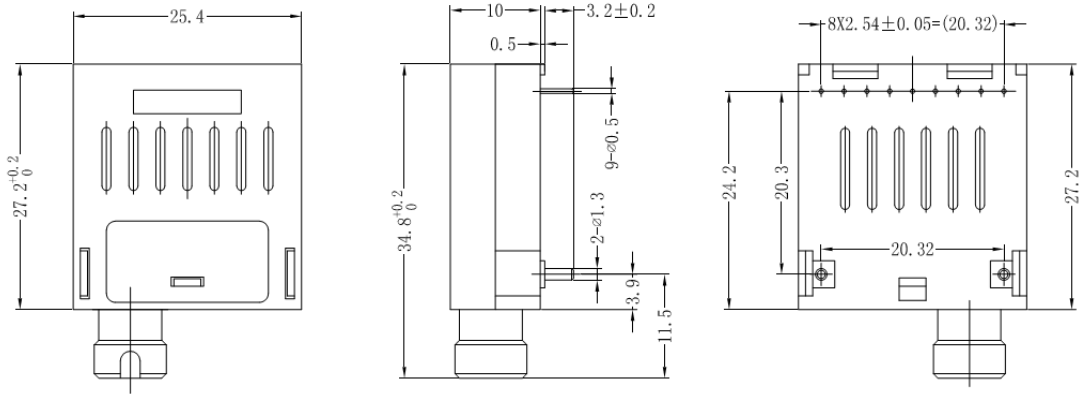
BIDI 边开口 ST 型接口

BIDI ST optical interface on the edge:



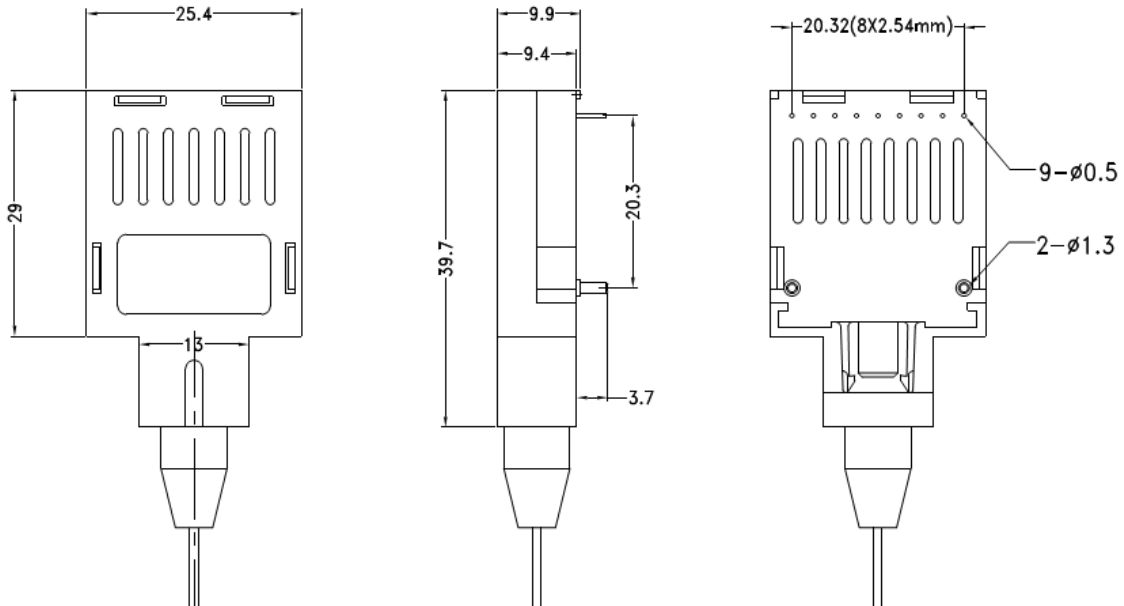
## BIDI 边开口 FC 型接口

BIDI FC optical interface on the edge:



## BIDI 尾纤型接口

BIDI pigtail optical interface in the middle



## BIDI 中开口 SC 型接口 BIDI SC optical interface in the middle

