

## 155Mb/s 单模单纤光收发一体模块

### 155Mb/s PECL 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
- 发射器件可分别选用 1310nm FP\1550nm FP 或 1490nmDFB\1550nm DFB
- +3.3V /+5V 供电
- SC/FC/ST 插拔式或尾纤型光接口
- 接口电平标准 PECL 电平
- 标准 1×9 管脚封装



#### Feature:

- Single Fiber Bi-Directional SM optical Transceiver
- Transmitter section Selects 1310nm FP \1550m FP LD or 1490nm DFB\1550nm DFB
- Standard +3.3V /+5V Power Supply
- SC/FC/ST or pigtail optical interface
- Standard PECL data output with signal detect indication
- Standard 1×9 packageH

#### 应用:

- 155Mb/s 及以下速率的光纤接入网，如 ATM、SDH、以太网等光纤传输系统

#### Applications

- Applied to optic fiber transmission systems,such as SDH \ATM\Ethernet with bit rate up to 155Mbps.

#### 技术指标: Specifications

| 参数<br>Parameter                             | 条件<br>Condition | 最小<br>Min | 典型<br>Typ | 最大<br>Max |
|---|-----------------|-----------|-----------|-----------|
| 工作波长 (nm) Wavelength                        | 1310nm          | 1270      | 1310      | 1350      |
|   | 1490nm          | 1480      | 1490      | 1500      |
|   | 1550nm          | 1530      | 1550      | 1570      |
| 电源电压 (V)<br>Power Supply                    | Vcc             | 3.135     | 3.3       | 3.465     |
|   |                 | 4.75      | 5         | 5.25      |
| 信号电平<br>Signal Level                        | PECL            |           | 3.2~4.0   |           |
|   | LVPECL          |           | 1.5~2.3   |           |
| 输出谱宽 (nm)<br>Output Spectral Width          | FP-LD,RMS       |           |           | 4         |
|   | DFB-LD,-20dB    |           |           | 1         |
| 消光比(dB)Extinction Ratio                     | EX              | 10        |           |           |
| 发送电流 (mA)<br>Current of transmitter section | Vcc=5V          |           |           | 100       |
|   | Vcc=3.3V        |           |           | 100       |

|  |          |  |  |     |
|--|----------|--|--|-----|
| 接收电流 (mA)<br>Current of receiver section | Vcc=5V   |  |  | 110 |
|  | Vcc=3.3V |  |  | 110 |

### 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<br>Data rate | 激光器<br>LD  | 模式及波长<br>Wavelength and Mode | 输出平均光功率 P0 (dBm) | 灵敏度<br>Sensitivity (dBm) | 传输距离<br>Reach |
|-----------------|------------|------------------------------|------------------|--------------------------|---------------|
| 155Mb/s         | 1310nm FP  | SM 1310nm                    | ≥-14             | ≤-33                     | 20km          |
|                 | 1550nm FP  | SM 1550nm                    | ≥-14             |                          |               |
| 155Mb/s         | 1310nm FP  | SM 1310nm                    | ≥-11             | ≤-33                     | 40km          |
|                 | 1550nm DFB | SM 1550nm                    | ≥-10             |                          |               |
| 155Mb/s         | 1310nm FP  | SM 1310nm                    | ≥-5              | ≤-35                     | 60km          |
|                 | 1550nm DFB | SM 1550nm                    | ≥-10             |                          |               |
| 155Mb/s         | 1490nm DFB | SM 1490nm                    | ≥-8              | ≤-36                     | 80km          |
|                 | 1550nm DFB | SM 1550nm                    | ≥-8              |                          |               |
| 155Mb/s         | 1490nm DFB | SM 1490nm                    | ≥-3              | ≤-36                     | 100km         |
|                 | 1550nm DFB | SM 1550nm                    | ≥-3              |                          |               |
| 155Mb/s         | 1490nm DFB | SM 1490nm                    | ≥-1              | ≤-37                     | 120km         |
|                 | 1550nm DFB | SM 1550nm                    | ≥-1              |                          |               |

#### 极限值 Absolute Maximum Ratings

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

## 光模块管脚定义

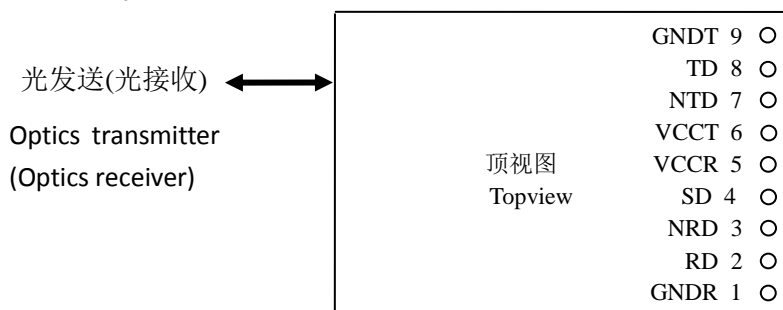
Pin definitions for transceiver

| 管脚<br>Pin | 管脚名称<br>Name  | 电 平<br>Level       | 说 明<br>Description   |
|-----------|---------------|--------------------|--|
| 1         | GNDR          |                    | 接收部分接地脚 Signal ground for Receiver                                     |
| 2         | RD+           | PECL/LVPECL        | 接收部分数据输出 Data output of receiver section                               |
| 3         | RD-           | PECL/LVPECL        | 接收部分反向数据输出<br>Reverse data output of receiver section                  |
| 4         | SD*<br>SD-T** | PECL/LVPECL<br>TTL | 接收部分无光告警。<br>Signal Detect. Customers have options for PECL or TTL SD. |
| 5         | VccR          |                    | 接收部分正电源<br>Power supply for receiver                                   |
| 6         | VccT          |                    | 发送部分正电源<br>Power supply for transmitter                                |
| 7         | TD-           | PECL/LVPECL        | 发送部分反向数据输入<br>Reverse Data input of transmitter section                |
| 8         | TD+           | PECL/LVPECL        | 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                                  |

**SD\* : Default Signal Detect. PECL mode.**

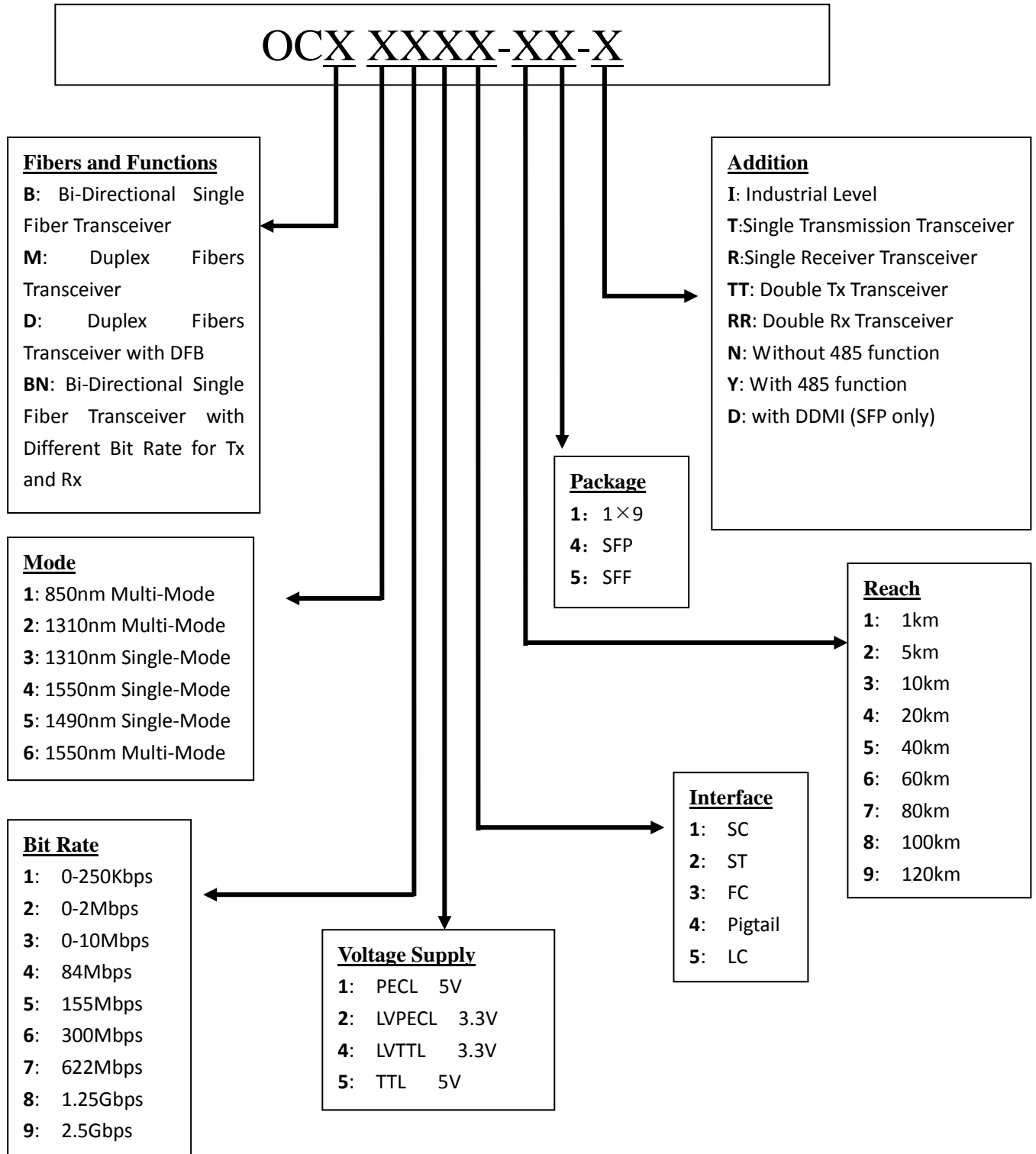
**SD-T\*\* : Optional Signal Detect. Compatible with TTL SD .**

## 顶视图 Topview



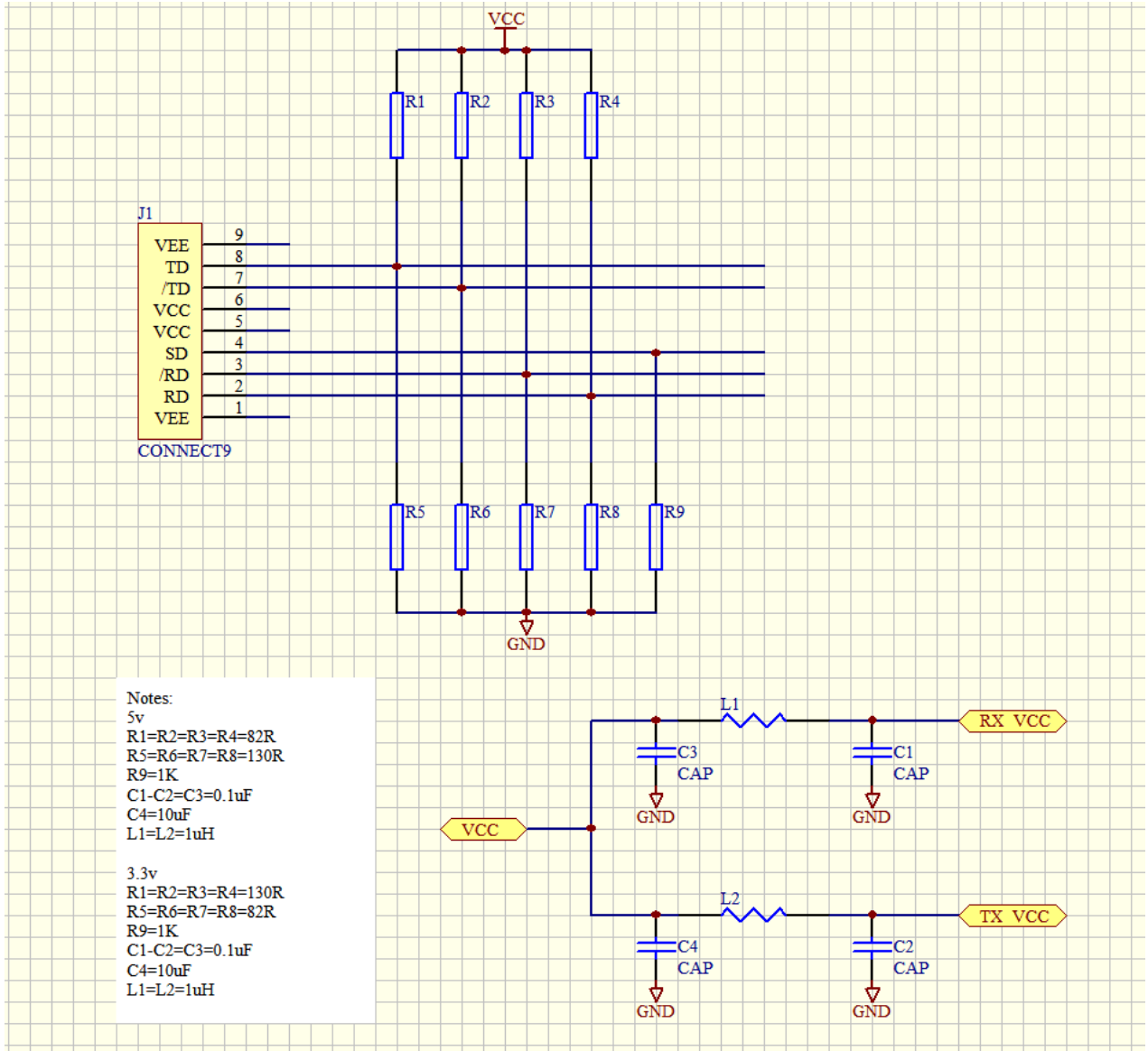
## 订购信息

### Order Information



外围电路推荐:

Recommended Application Configuration:

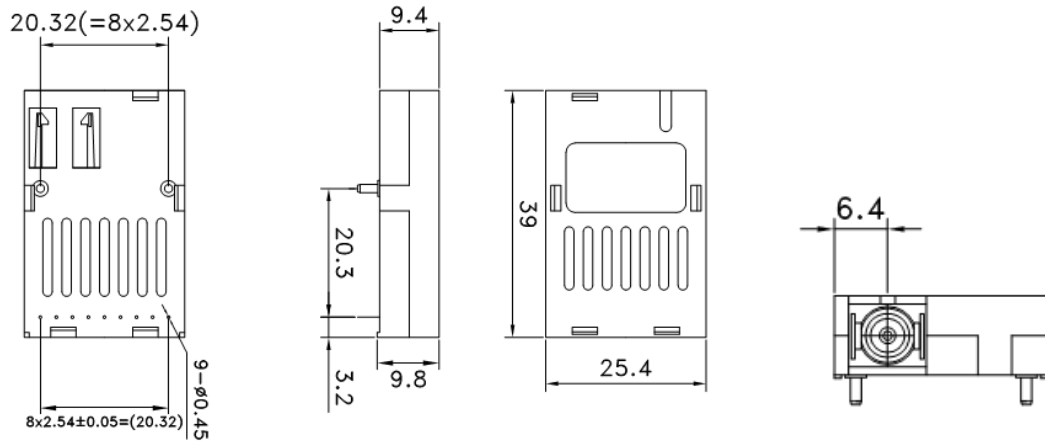


## 外形尺寸及接口定义

### Dimension and optical interface

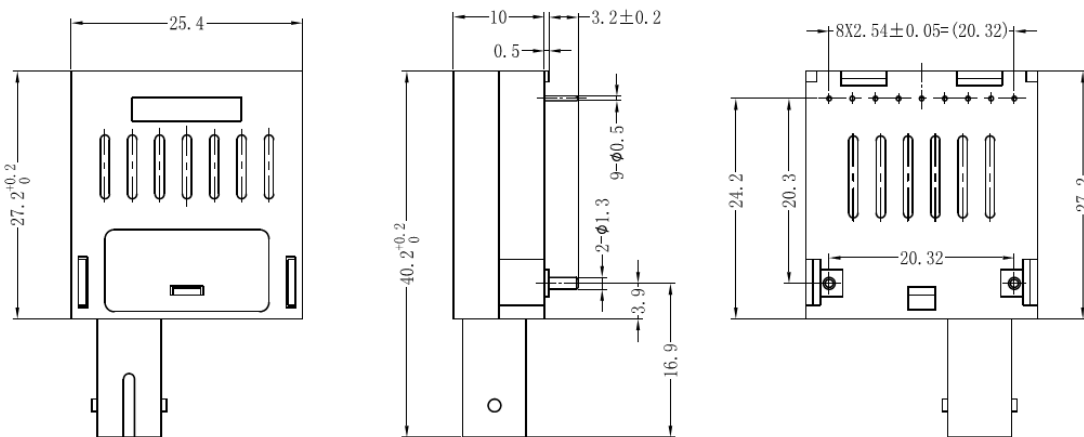
BIDI 边开口 SC 型接口:

BIDI SC optical interface on the edge:



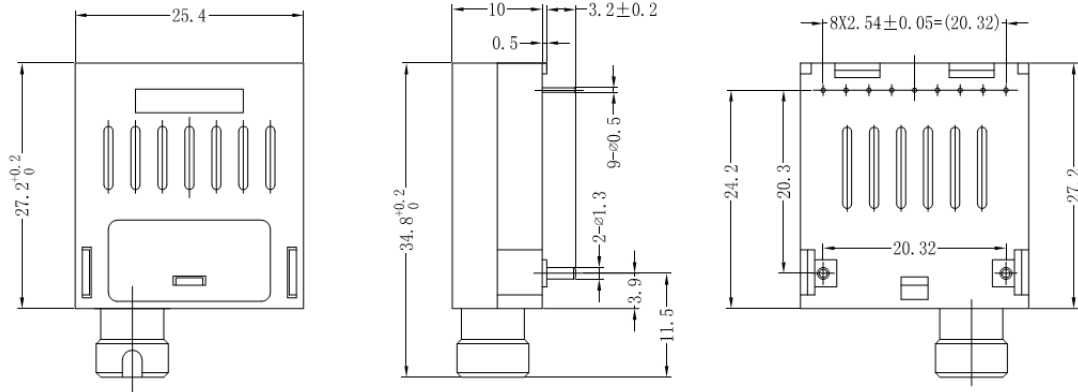
BIDI 边开口 ST 型接口

BIDI ST optical interface on the edge:



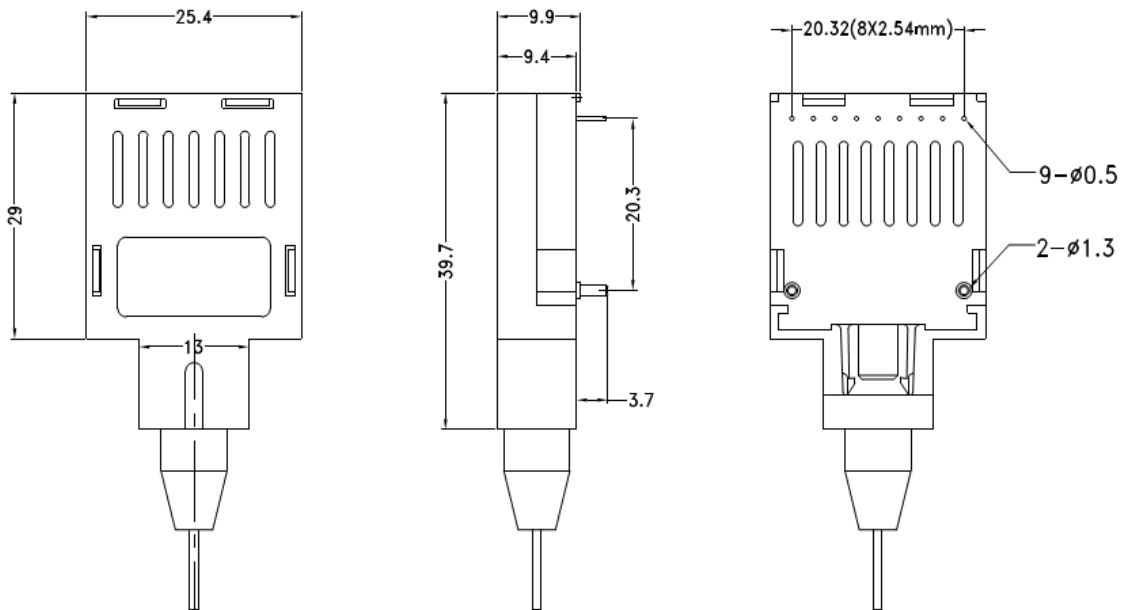
## BIDI 边开口 FC 型接口

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

