

## TC-ELD Series 905nm Directly Adjustable Light Source Module

### Product Description

TC-ELD direct modulation laser module integrates high-power laser diode, drive circuit and temperature control circuit; the module has 20Mbit/s modulation rate, excellent mode stability, low relative intensity noise, and good output optical power stability . It can be used in the fields of space optical communication and digital communication.



### Features

- Output average optical power greater than 200mw
- Modulation rate up to 20 Mbit/s
- High extinction ratio
- Pigtail output
- Low power consumption
- Compact structure, module package
- DC power supply

### Applications

- Special optical transmission system
- Seed light source
- Space optical communication

### Extreme Conditions

| Parameter             | Symbol   | Unit | Minimum Value | Typical Value | Maximum Value |
|-----------------------|----------|------|---------------|---------------|---------------|
| Signal Input Voltage  | $V_R$    | V    |               | 3.3           | 4             |
| Working Current       | $I_{PD}$ | A    |               | 0.5           | 1             |
| Operating Voltage     | $V_{op}$ | V    |               | DC 3.3        | DC 4          |
| Operating Temperature | $T_{op}$ | °C   | -10           |               | 60            |
| Storage Temperature   | $T_{st}$ | °C   | -40           |               | 85            |
| Humidity              | RH       | %    | 5             |               | 90            |



### Performance Parameter

| Parameter                               | Symbol          | Minimum value                                | Typical value | Maximum value | Unit          |
|-----------------------------------------|-----------------|----------------------------------------------|---------------|---------------|---------------|
| Central wavelength                      | $\lambda$       |                                              | 905           |               | nm            |
| Peak wavelength tolerance               |                 |                                              | $\pm 10$      |               | nm            |
| output optical power                    | $P_o$           | 200                                          |               |               | mW            |
| 3dB spectral width                      | $\Delta\lambda$ |                                              | 5             | 12            | nm            |
| rise/fall time                          | $T_{rise/fall}$ |                                              | 1.0           |               | ns            |
| modulation bandwidth                    | F               | 20                                           |               |               | Mbit/s        |
| Input Electrical Signal Amplitude (TTL) |                 |                                              | 3.3           |               | V             |
| Optical extinction ratio                |                 |                                              | 12            |               | dB            |
| Core diameter                           |                 |                                              | 62.5          |               | $\mu\text{m}$ |
| Numerical aperture                      |                 |                                              | 0.27          |               | NA            |
| Working current                         | I               |                                              | 500           |               | mA            |
| specification                           |                 | Module                                       |               |               |               |
| Power requirements                      |                 | DC 3.3V                                      |               |               |               |
| Input electrical signal interface       |                 | SMA                                          |               |               |               |
| Operating mode                          |                 | External electrical signal direct modulation |               |               |               |
| Optical connector                       |                 | SC/PC or user specified                      |               |               |               |

\*\* Test conditions: CW,  $T_{op}=25^{\circ}\text{C}$



## Typical Signal Modulation



## Ordering Information

| TC | ELD                      | 905                       | X                                           | X                                       | 200                           | XX                | XX                                                     |
|----|--------------------------|---------------------------|---------------------------------------------|-----------------------------------------|-------------------------------|-------------------|--------------------------------------------------------|
|    | Directly modulated laser | Working wavelength: 905nm | modulation rate: 1--10Mbit/s<br>2--20Mbit/s | Package: M---<br>Module D---<br>Desktop | Output Power: 200---<br>200mW | Pigtail: SM---SMF | Fiber optic connector: SC<br>FC<br>SP---user specified |

