

TC-DML Series 1310nm High Bandwidth Direct Modulation

Product Description

TC-DML series 1310nm high-bandwidth direct modulation light source integrates 1310nm direct modulation DFB laser, drive circuit and temperature control circuit; the light source has a high modulation bandwidth of 10GHz, excellent mode stability, low relative intensity noise, and good output optical power stability. High-bandwidth, high-sensitivity RF signal modulation features make TC-ELD-13 the best choice for analog RF signal direct modulation light sources.



Features

- Modulation bandwidth higher than 10GHz
- Based on InGaAs/InP multi-quantum well laser diode, high electro-optic conversion sensitivity
- Built-in refrigerator and temperature control circuit
- Built-in monitoring PD to ensure the stability of output optical power
- Compact structure, module package
- DC 5V power supply

Applications

- Analog RF signal transmission link
- Pulsed light modulation
- Seed light source
- CATV analog signal transmitter

Extreme condition

| Parameter | Symbol | Unit | Minimum Value | Typical Value | Maximum Value |
|-----------------------|--------|------|---------------|---------------|---------------|
| Input RF Power | Pin | dBm | | | 20 |
| Operating Voltage | Vop | V | | DC 5V | |
| Operating Temperature | Top | °C | -10 | | 60 |
| Storage Temperature | Tst | °C | -40 | | 85 |
| Humidity | RH | % | 5 | | 90 |



Performance Parameter

| Parameter | Symbol | Minimum value | Typical value | Maximum value | Unit |
|--------------------------------|-----------------|-----------------------------------|---------------|---------------|-------|
| Central Wavelength | λ | 1310 | | nm | |
| Output Optical Power | P _o | - | 8 | - | mW |
| 3dB Line Width | Δν | - | 1 | - | MHz |
| SMR | SMSR | 30 | 45 | - | dB |
| Relative Noise Intensity | RIN | - | -145 | - | dB/Hz |
| Polarization Extinction Ratio* | PER | 17 | 19 | - | dB |
| Modulation Bandwidth | F | 10 | - | - | GHz |
| Electrical Return Loss | S ₁₁ | - | - | -10 | dB |
| Matching Impedance | Z _{IN} | - | 50 | - | Ω |
| Output Isolation | ISO | 30 | 35 | - | dB |
| Specification | | Module | | | |
| Dimension | L x W x H | 60×95×21 mm | | | |
| Power Requirements | | DC +5V | | | |
| Output Fiber | | SMF/PMF | | | |
| Operating Mode | | External signal direct modulation | | | |
| Optical Connector | | FC/PC, FC/APC or user specified | | | |

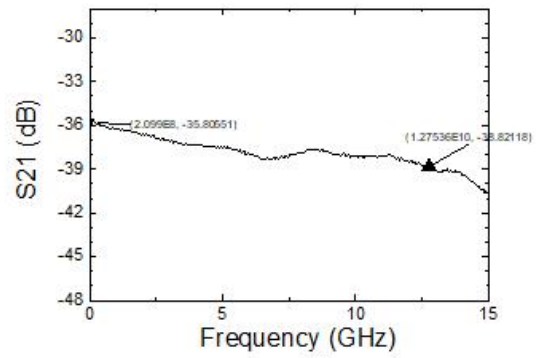
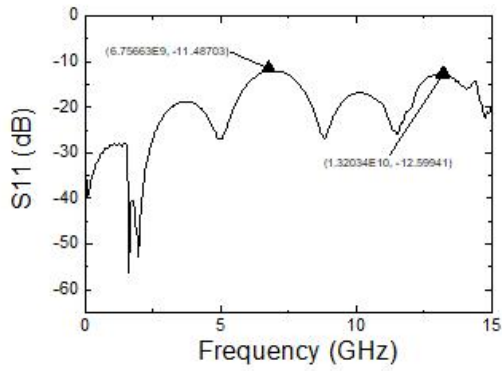
*When the output fiber is polarization maintaining fiber coupling.

Ordering Information

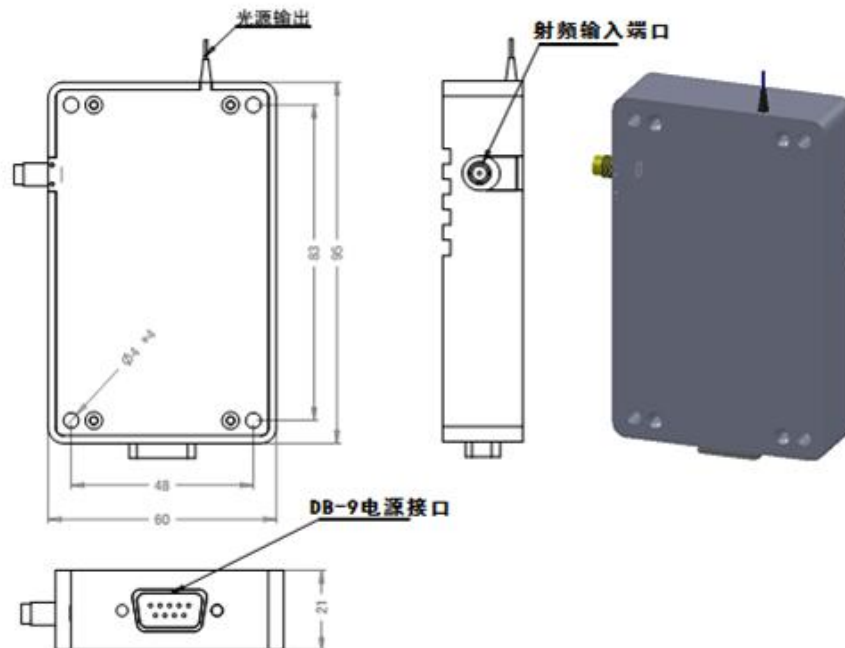
| TC | DML | 13 | XX | X | XX | XX | X |
|----|----------------------------------|-------------------------------|-----------------------------------|---------------------------------|-----------------------------------|----------------------------|--|
| | Directly adjustable light source | Working wavelength: 13-1310nm | Modulation bandwidth: 10G---10GHz | Package: M---Module D---Desktop | Output power: 10---10mW 18---18mW | Pigtail: PM---PMF SM---SMF | Fiber optic connectors: FP---FC/PC FA---FC/APC SP---user specified |



Characteristic Curve



Package Size



(单位: mm)

