

## 1270 – 1610 nm CWDM Butterfly Laser

**Model #:** CWDMLD

**Features:**

- Multi-quantum well (MQW) distributed feedback (DFB) laser
- Industry-standard, 14-pin butterfly package;
- Built-in TEC and optical isolator;
- ITU wavelengths available from 1270 nm —1610 nm



**Applications:**

- Optical fiber Communications
- Fiberoptic sensors
- Laser sources
- CATV systems.

**Absolute Maximum Ratings**

Parameter	Symbol	Condition	Min.	Max.	Unit
Laser Forward Current	$I_F$		-	120	mA
Laser Reverse Voltage	$V_{LR}$	CW	-	2.0	V
TEC voltage	$V_{TEC}$	CW	-	2.6	V
TEC current	$I_{TEC}$	CW	-	1.5	A
Lead Solder Temperature/Time	-	-	-	260/10	°C/S
Operating case temperature	Top	Case	-40	85	°C
Storage temperature	$T_s$	Ambient	-40	85	°C

**Optical Characteristics (at 25°C laser temperature,  $I_F = I_{OP}$ )**

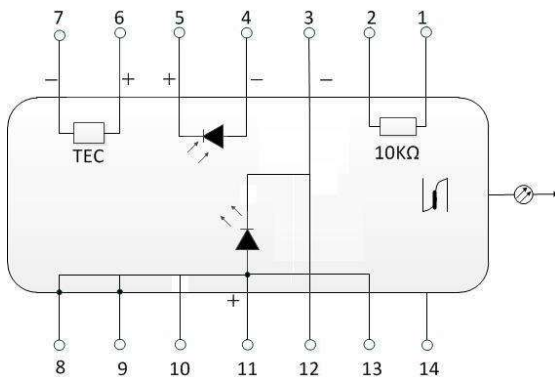
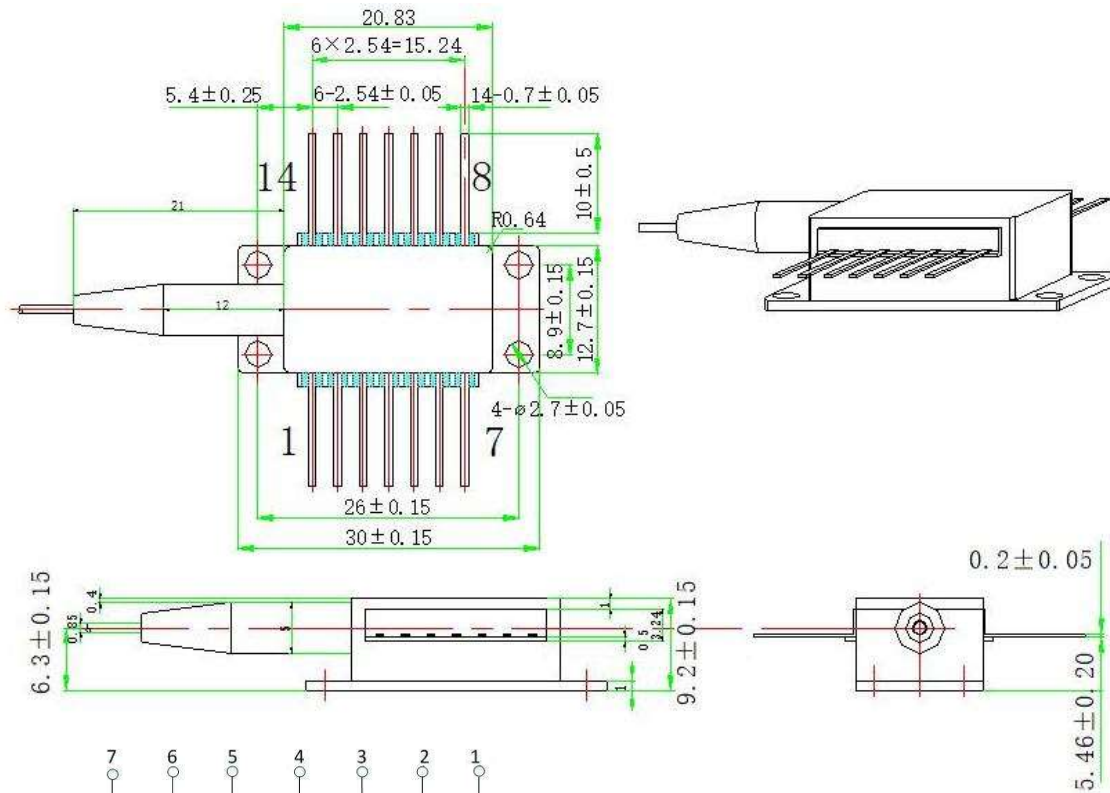
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Center Wavelength	$\lambda_c$	CW, 25°C	$\lambda_{n-3}$	$\lambda_n$	$\lambda_{n+3}$	nm
Optical Output Power	$P_F$	-	10	-	-	mW
Threshold Current	$I_{TH}$	25°C	-	8	15	mA
Operating current	$I_{op}$	PO= 10 mW (CW)	-	-	90	mA
Side-mode Suppression Ratio	SMSR	CW	35	40	-	dB
Optical Isolation	$I_{SO}$	25°C	35	-	-	dB
Spectral linewidth (-20dB)	$\Delta\lambda$	-	-	0.1	1.0	nm
Polarization Extinction Ratio	ER	PM Fiber	18	-	-	dB
Wavelength Temperature coefficient	$\Delta\lambda/\Delta T$	TEC temperature at 15°C to 35°C	-	0.08	0.12	nm/°C
Monitor Current	$I_{MON}$	$V_{RM}=5V$	50	-	1500	$\mu A$

MPD Dark Current	$I_D$	$R_M=5V$	-	-	50	$\mu A$
Thermistor Resistance	$R_{TH}$	25°C	9.5	10	10.5	k $\Omega$
Thermistor B-value	$\beta$	25°C/80°C	-	3950	-	K

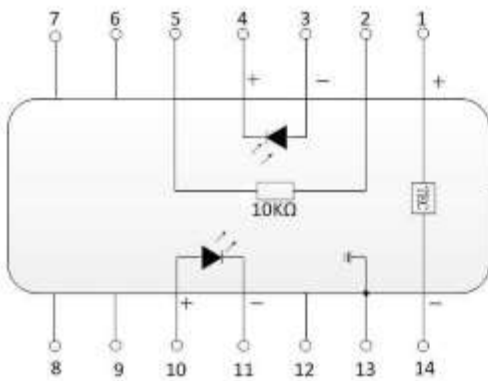
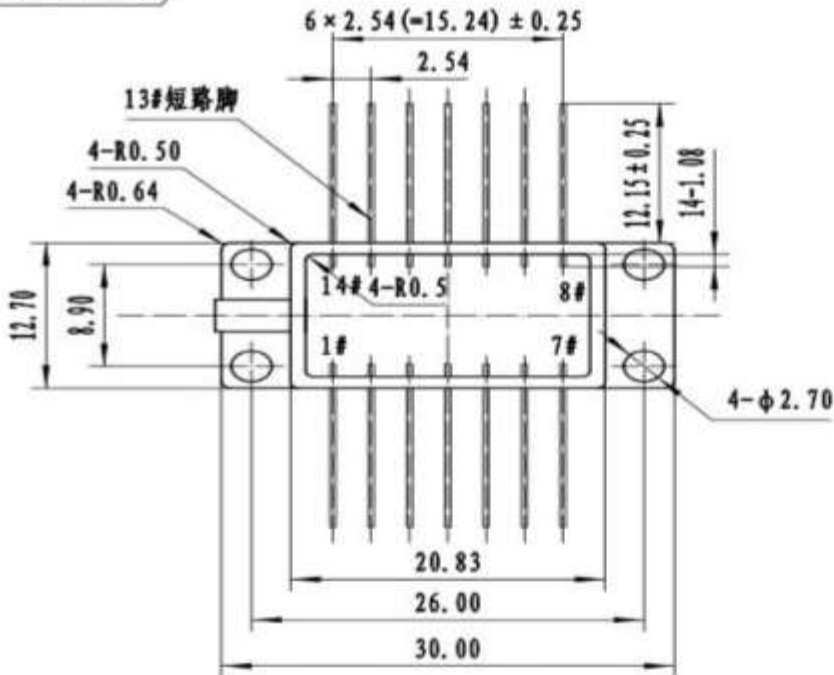
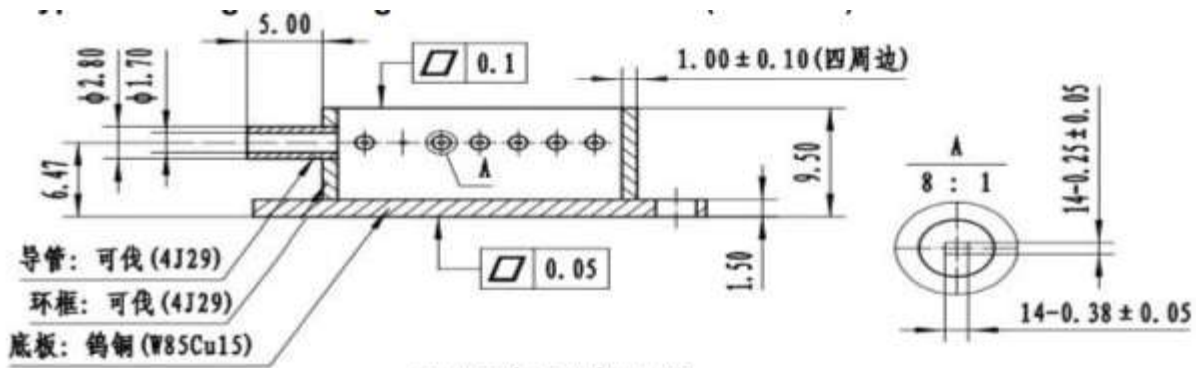
### Fiber Pigtail Specifications

Parameters	Description
Fiber Type	SMF-28e or PMF-1550
Jacket Type	900 $\mu m$ loose tube
Pigtail Length	1.0 $\pm$ 0.1m
Connector Type	FC/APC (Key to slow axis if PM fiber applied)

### Type 1 Package drawing (Mechanical Dimensions):



PIN	Description	PIN	Description
1	Thermistor	14	NC
2	Thermistor	13	Laser Anode(+)/Case
3	LD Cathode(-)	12	Laser Cathode(-)
4	PD Anode (+)	11	Laser Anode(+)/Case
5	PD Cathode(-)	10	NC
6	TEC(+)	9	Case Ground
7	TEC(-)	8	Case Ground

**Type 2 Package drawing (Mechanical Dimensions):**


PIN	Description	PIN	Description
1	TEC(+)	14	TEC(-)
2	Thermistor	13	Case Ground
3	PD Monitor Anode (-)	12	NC
4	PD Monitor Cathode (+)	11	Laser Cathode (-)
5	Thermistor	10	Laser Anode (+)
6	NC	9	NC
7	NC	8	NC

**Ordering Information: CWDMLD-AAAA-B-C-D-E**

AAAA: wavelength	B: output power	C: fiber type	D: connector type	E: pin-out
1270 - 12700 nm	10 – 10 mW	SM – SMF-28	FU - FC/UPC	1 – Type 1
1290 -12900 nm	X - specify	PM – Panda PM fiber	FA - FC/APC	2 – Type 2
.....			SU - SC/UPC	
1550 – 1550 nm			SA - SC/APC	
1570 – 1570 nm			N - none	
1590 – 1590 nm			X - specify	
1610 – 1610 nm				
XXXX – Specify				

