

1582nm 10mW DFB Butterfly Laser Diode

1. Features:

- 1582nm Wavelength;
- 10mW High output power;
- High-performance, multiquantum well (MQW) distributed-feedback (DFB) laser;
- Industry-standard 14PIN butterfly package;
- Built-in TEC and optical isolator.



2. Applications:

- Fiber optic sensors;
- C/DWDM systems;
- Laser sources.

3. Absolute Maximum Ratings:

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Storage temperature	T _S	-	-40	-	85	°C
Operating case temperature	T _{OP}	-	-20	-	70	°C
Forward current	I _F	CW	-	-	200	mA
Laser Reverse voltage	V _{LR}	-	-	-	2	V
PD Forward current	I _{FPD}	-	-	1.1	5	mA
PD Reverse voltage	V _{RPD}	-	-	5	10	V
TEC current	I _{TEC}	-	-	0.8	1.5	A
TEC voltage	V _{TEC}	-	-	1.5	3.5	V

4. Electro-Optical Characteristics(25°C laser temperature):

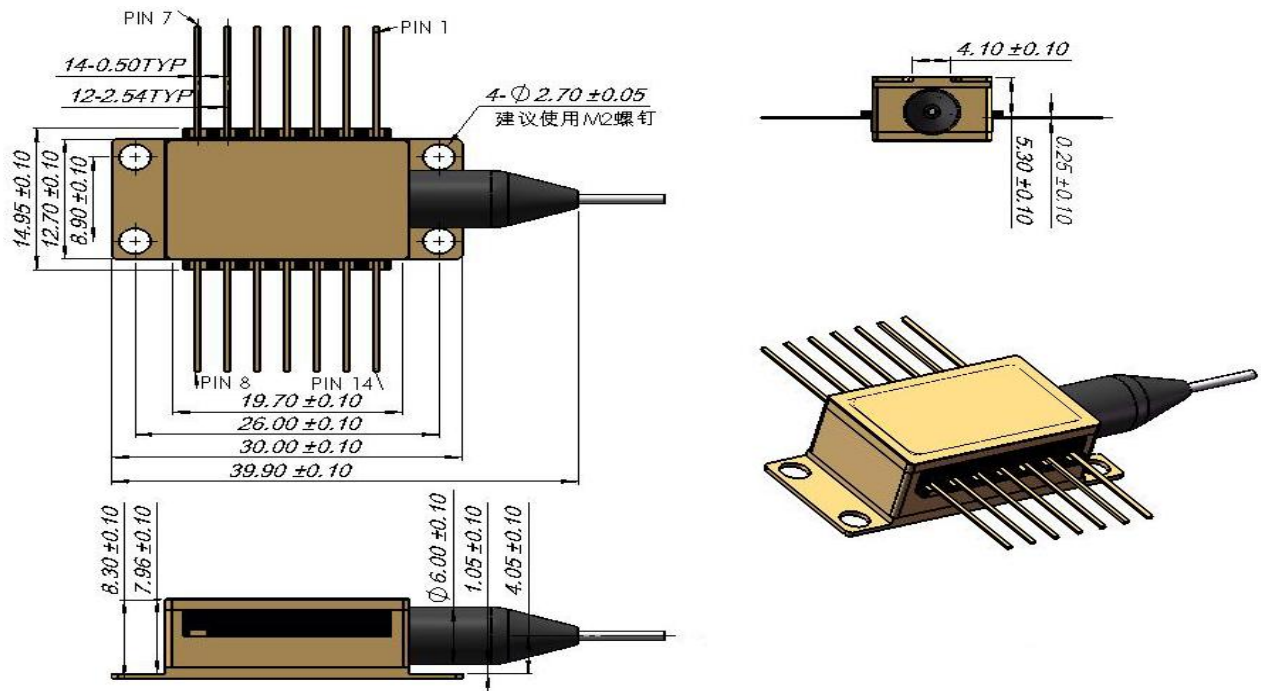
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Center wavelength	λ _c	TL=15~35°C CW	1581	1582	1583	nm
Optical output power	P _O	-	10	-	-	mW
Threshold current	I _{TH}	-	-	10	35	mA
Slope efficiency	η	CW output power 5mW	0.05	0.11	0.2	mW/mA
Operating current	I _{OP}	PO= 10 mW (CW)	-	100	120	mA
Spectral linewidth	LW	FWHM	-	3	-	MHz
Laser forward voltage	V _F	CW output power 10mW	-	1.2	3.0	V
Monitor dark current	I _D	-	-	-	0.1	μA
Bandwidth(@-3dB)	BW	-	-	2.5	-	GHz
Side-mode suppression ratio	SMSR	CW	35	40	-	dB
Optical isolation	-	-10 < TC < +70°C	30	-	-	dB
Relative intensity noise	RIN	CW, output power 5mW	-	-145	-	dB

TEC set temperature	T _s	-	15	-	35	°C
Input impedance	Z _{IN}	-	22	25	28	Ω
Thermistor current	I _{TC}	-	10	-	100	μA
Thermistor resistance	R _{TH}	T _L = 25°C	9.5	10	10.5	KΩ
TEC Current	I _{TEC}	T _L = 25°C, T _C = 70°C	-	-	1.5	A
TEC Voltage	V _{TEC}	T _L = 25°C, T _C = 70°C	-	-	3.5	V
TEC capacity	ΔT	T _C = 70°C	-	-	50	°C
Thermistor temperature	-	-	-	-	100	°C
Wavelength Drift (EOL)	Δλ	Tested over 25-year lifetime	-	-	±0.1	nm
Wavelength temperature coefficient	Δλ/ΔT	TEC temperature at 15°C to 35°C	-	0.09	-	nm/°C
Wavelength current coefficient	Δλ/ΔI	-	-	0.01	-	nm/mA

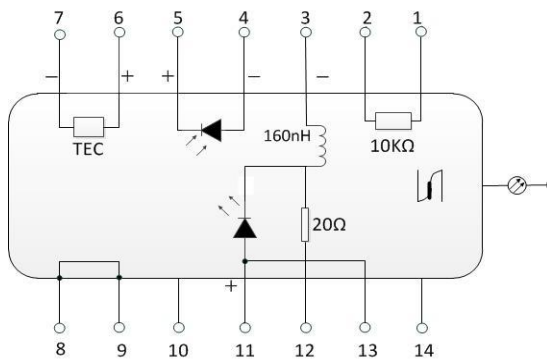
5. Optical Fiber Specifications:

Parameters	Description
Fiber type	SMF-28e
Pigtail type	900μm loose tube
Pigtail length	1.0±0.1m
Connector type	FC/APC

6. Package drawing&PIN-OUT Definition(Unit:mm):

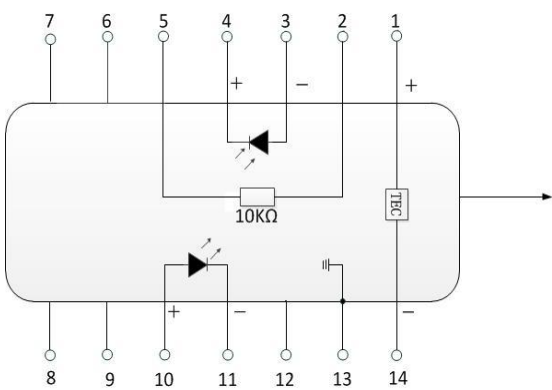


Type 1



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

Type 2



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

7. Ordering Information:

BFLD	-XXXX	-XX	XX	-XX	X
Laser type	Wavelength	Output power	Fiber type	Connector type	PIN-OUT
DFB Laser	1310: 1310nm 1550: 1550nm 1582: 1582nm CWDM Other	10: 10mW 20: 20mW Customized	SM : Single mode PM : Polarization maintaining	FA : FC/APC SA : SC/APC Other	NULL: Type 1 2: Type 2

E.g.:BFLD-1582-10SM-FA (Order information: 1582nm DFB Laser diode with 10mW output power, and SM fiber with FC/APC connector, PIN-OUT is Type 1).