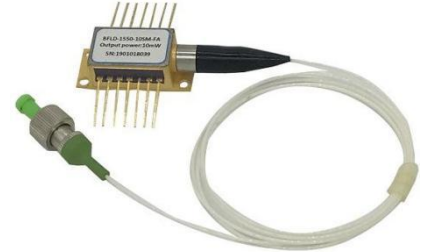


1650nm 20mW DFB Butterfly Laser Diode

1. Features:

- 20mW Output power;
- High-performance, multiquantum well (MQW) distributed-feedback (DFB) laser;
- Industry-standard 14PIN butterfly package;
- Built-in TEC and optical isolator;
- Wavelength 1650nm.

Reliability: Telcordia GR-468. RoHS



2. Applications:

- LAN, WAN and metro networks;
- C/DWDM systems;
- Fiber optic sensors.

3. Absolute Maximum Ratings:

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Storage temperature	T _s	-	-40	-	85	°C
Operating case temperature	T _{op}	-	-20	-	65	°C
Forward Current	I _F	CW	-	-	400	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):

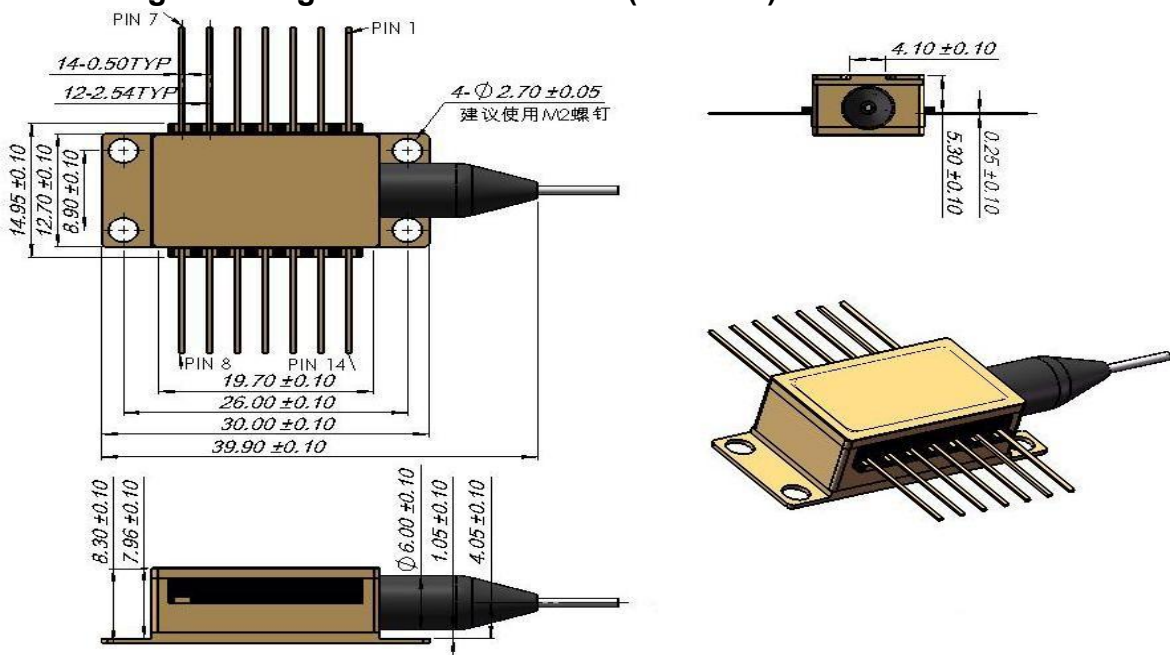
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Center Wavelength	λ _c	TL=15~35°C CW	1649	1650	1651	nm
Optical Output Power	P _O	-	20	-	-	mW
Threshold Current	I _{TH}	-	-	10	35	mA
Slope Efficiency	η	-	0.05	0.11	0.2	mW/mA
Operating current	I _{op}	P _O = 20 mW (CW)	-	200	-	mA
Spectral linewidth	LW	FWHM	-	3	-	MHz
Laser Forward Voltage	V _F	CW output power 20mW	-	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	-	-	-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}	TL = 25°C	9.5	10	10.5	KΩ
TEC Current	I _{TEC}	TL = 25°C, TC = 70°C	-	-	1.5	A
TEC Voltage	V _{TEC}	TL = 25°C, TC = 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

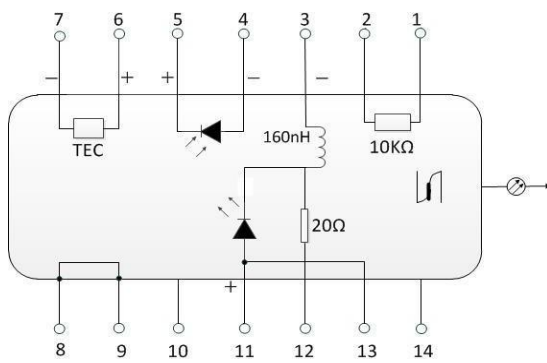
5. Optical Fiber Specifications:

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):

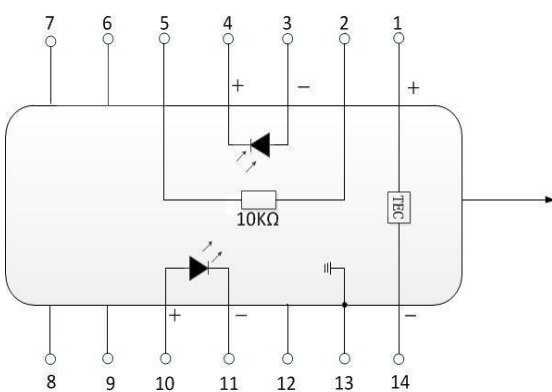


Type 1



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 1625: 1625nm 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-1650-20SM-FA (Order information: 1650nm DFB Laser diode with 20mW output power, and SM fiber with FC/APC connector, PIN-OUT is Type 1).