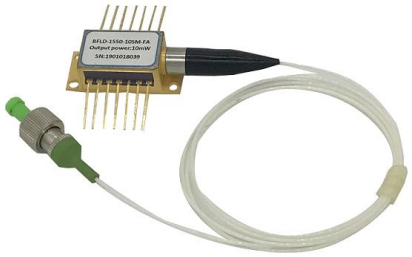
LAN-WDM 10mW Fiber Coupled Laser

1. Features:

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

Reliability: Telcordia GR-468. RoHS.



2. Applications:

- C/DWDM systems;
- Laser sources;
- CATV systems;
- Fiber optical sensors.

3. Absolute Maximum Ratings:

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Storage temperature	Ts	-	-40	-	85	℃
Operating case temperature	Top	-	-20	-	70	℃
LD Forward current	I_F	CW	-	-	120	mA
LD Reverse current	I_R	-	-	-	2	mA
LD Reverse Voltage	V_{LR}	-	-	-	10	V
PD Forward Current	I_{FPD}	-	-	-	10	mA
PD Reverse Voltage	V_{RPD}	-	-	-	20	V
TEC current	I_{TEC}	-	-	-	2.0	A
TEC voltage	V_{TEC}	-	-	-	3.5	V
Fiber bend radius	-	-	30	-	-	mm
Relative humidity	RH	Non condensing	0	-	95	%
Lead soldering time	-	260℃	-	-	10	S
Fiber axial pull force	-	-	-	-	5	N
Fiber side pull force	-	-	-	-	2.5	N

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

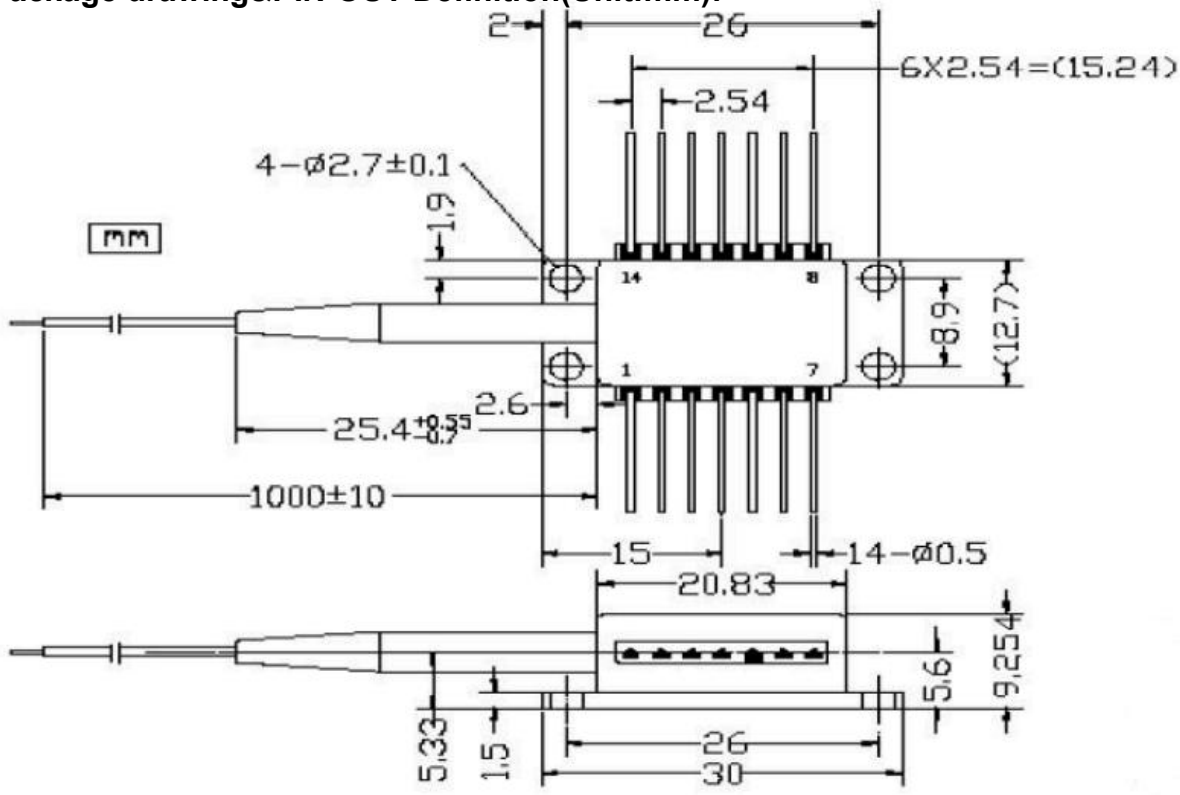
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Center wavelength	λc	T_L=15～35℃ CW	λc-1	λc	λc+1	nm
Optical output power	P_O	T_L=15～35℃ CW	10	-	-	mW
Threshold current	I_{TH}	CW	-	9	13	mA
LD Forward current	I_F	P_F =Rated Power	-	80	100	mA
LD Forward voltage	V_F	P_F=Rated Power	-	-	1.5	V

Side-mode suppression ratio	SMSR	CW	35	40	-	dB
Optical isolation	-	-10 < T_C < +70℃	30	35	-	dB
Monitor responsivity	I_M/P_F	-	-	1	20	uA/mW
Monitor responsivity stability	-	-	-	-	20	%
Monitor dark current	I_D	V_{PD}=5V	-	-	50	nA
TEC Current	I_{TEC}	T_L = 25℃, T_C = 70℃	-	0.6	2.0	A
TEC Voltage	V_{TEC}	T_L = 25℃, T_C = 70℃	-	1.3	3.5	V
TEC Power consumption	P	T_C = 75℃	-	-	5	W
Thermistor resistance	R_{TH}	T_C = 25℃	9.5	10	10.5	Kohm
Thermistor B constant	B_{TH}	T_C = 25℃	-	3900	-	K
Wave. temp. coefficient	Δλ/ΔT	0℃ <Tcase< 65℃	-	-	0.09	nm/℃
Wave. current coefficient	Δλ/ΔI	20℃ <Tλ< 35℃	0.07	-	0.12	nm/mA

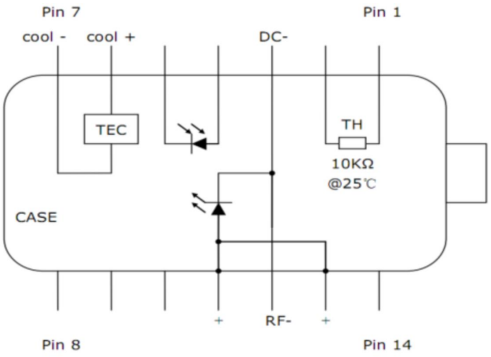
5. Optical Fiber Specifications:

Parameters	Description
Fiber Type	SM fiber or PM fiber
Pigtail Type	900μm loose tube
Pigtail Length	1.0±0.1m
Connector Type	FC/APC

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

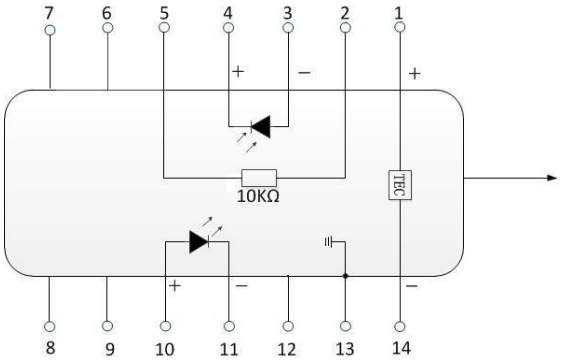


Type 1



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	GND
7	TEC(–)	8	GND

Type 2



PIN	Description	PIN	Description
1	TEC(+)	14	TEC(-)
2	Thermistor	13	Case Ground
3	PD Anode	12	NC
4	PD Cathode	11	LD Cathode
5	Thermistor	10	LD 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	LAN-WDM	10: 10mW Customized	SM : Single mode PM : Polarization maintaining	FA : FC/APC SA : SC/APC Other	NULL: Type 1 2: Type 2

Channel No.	λc(nm)	Channel No.	λc(nm)	Channel No.	λc(nm)
LA01	1266.50	LA08	1296.50	LA15	1315.50
LA02	1271.50	LA09	1301.50	LA16	1320.50
LA03	1276.50	LA10	1304.58	LA17	1325.50
LA04	1281.50	LA11	1306.85	LA18	1330.50
LA05	1286.50	LA12	1309.14	LA19	1335.50
LA06	1286.66	LA13	1310.50	LA20	1340.50
LA07	1291.50	LA14	1311.43	LA21	1345.50