

1568nm 10mW DFB Butterfly Laser Diode

1. Features:

- 10mW High output power;
- 1528.77~1610.06nm DWDM band Center Wavelengths (100GHz spacing) ;
- High output power(10~100mW);
- High-reliability in 14-pin butterfly package;
- Built-in optical isolator.

Reliability: Telcordia GR-468. RoHS

2. Applications:

- LAN, WAN and metro networks;
- C/DWDM systems;
- Laser sources;
- CATV systems.

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	-	-	400	mA
Laser Reverse Voltage	V _{LR}	-	-	-	2	V
PD Forward Current	I _{FPD}	-	-	0.7	2	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	1567	1568	1569	nm
Optical Output Power	P _O	-	10	-	-	mW
Threshold Current	I _{TH}	-	-	10	35	mA
Slope Efficiency	η	CW output power 5mW	0.05	0.08	0.2	mW/mA
Operating current	I _{op}	P _O = 10 mW (CW)	-	100	200	mA
Laser Forward Voltage	V _F	CW output power 10mW	-	1.2	2.0	V
Monitor Dark Current	I _D	-	-	-	0.1	μA
Bandwidth(@-3dB)	BW	-	-	2.5	-	GHz
Side-mode Suppression Ratio	SMSR	CW	35	40	-	dB

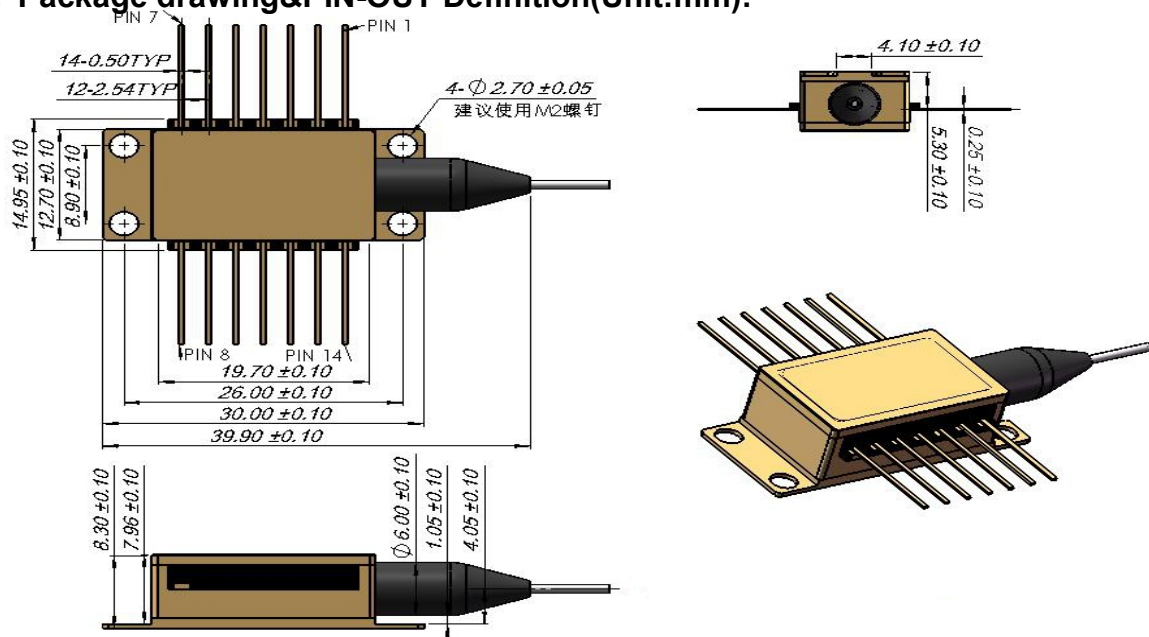
1568nm 10mW DWDM Butterfly Laser Diode
LD-1568DWDM-10PM-FA

Line Width (3dB full width)	LW	Modulated at 2.5 Gbits/s at rated power	-	2	-	MHz
Optical Isolation	-	$-10 < T_C < +70^{\circ}\text{C}$	30	-	-	dB
Relative Intensity Noise	RIN	CW, output power 5mW	-	-145	-	dB
TEC set temperature	T_S	-	15	-	35	$^{\circ}\text{C}$
Input Impedance	Z_{IN}	-	22	25	28	Ω
Thermistor Current	I_{TC}	-	10	-	100	μA
Thermistor Resistance	R_{TH}	$T_L = 25^{\circ}\text{C}$	9.5	10	10.5	K Ω
TEC Current	I_{TEC}	$T_L = 25^{\circ}\text{C}, T_C = 70^{\circ}\text{C}$	-	0.6	2.0	A
TEC Voltage	V_{TEC}	$T_L = 25^{\circ}\text{C}, T_C = 70^{\circ}\text{C}$	-	1.3	3.5	V
TEC capacity	ΔT	$T_c = 70^{\circ}\text{C}$	-	-	50	$^{\circ}\text{C}$
Thermistor temperature	-	-	-	-	100	$^{\circ}\text{C}$
Wavelength Drift (EOL)	$\Delta\lambda$	Tested over 25-year lifetime	-	-	± 0.1	nm
Wavelength Temperature coefficient	$\Delta\lambda/\Delta T$	TEC temperature at 15 $^{\circ}\text{C}$ to 35 $^{\circ}\text{C}$	-	0.09	-	nm/ $^{\circ}\text{C}$
Wavelength Current coefficient	$\Delta\lambda/\Delta I$	-	-	0.01	-	nm/mA

5. Optical Fiber Specifications:

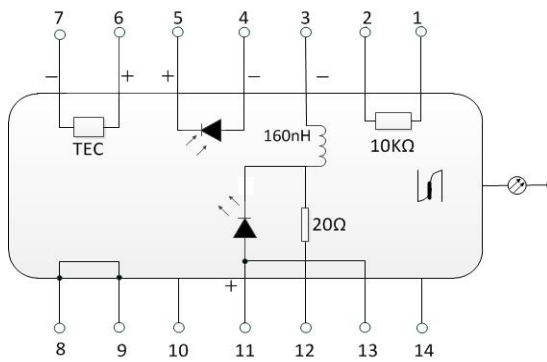
Parameters	Description
Fiber Type	PM1550
Pigtail Type	900 μm loose tube
Pigtail Length	1.0 $\pm$ 0.1m
Connector Type	FC/APC

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



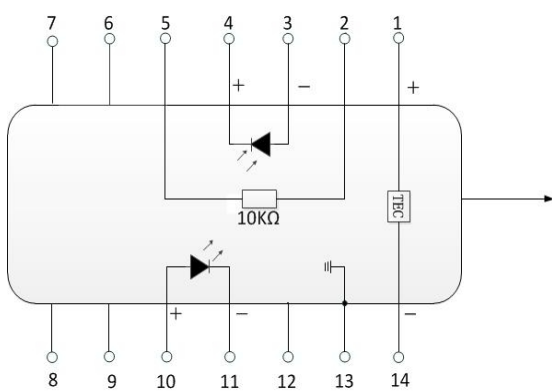
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LD-1568DWDM-10PM-FA

Type 1



PIN	Description	PIN	Description
1	Thermistor	14	NC
2	Thermistor	13	Laser Anode (+) floating
3	Laser dc Bias(Cathode)(-)	12	Laser RF Cathode (-)
4	PD Monitor Anode (-)	11	Laser Anode (+) floating
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:

LD	-XXXX	-XX	-XX	-XX	(-X)
Laser type	Wavelength	Output power	Fiber type	Connector type	PIN-OUT
DFB Laser	1310: 1310nm 1550: 1550nm CWDM DWDM	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.:LD-CWDM-10SM-FA (Order information: CWDM DFB Laser diode with 10mW output power, and SM fiber with FC/APC connector, PIN-OUT is Type 1).