

DFB 10mW CWDM±2nm Butterfly Laser Diodes

Features

- High output power($\geq 10\text{mW}$)
- High-performance
- Industry-standard, 14-pin butterfly package
- Built-in TEC and optical isolator
- λ_c of $\text{XXXX}\pm 2\text{nm}$

Applications

- Fiberoptic sensors
- C/DWDM systems
- Laser sources
- CATV systems

This laser cover customer selection of large wavelengths range from 1260nm to 1650nm which are fabricated in a hermetically sealed 14-pin butterfly package. The laser diodes contains thermoelectric cooler (TEC), thermistor, monitor photodiode, optical isolator to secure high quality laser performance. The Laser Diodes wavelength of $\text{XXXX}\pm 2\text{nm}$, Output power of $\geq 10\text{mW}$, Pigtail Type: SMF-28e fiber with 900um loose tube, 1.0m, FC/APC connector. Our laser products are Telcordia GR-468 qualified, and in compliance with RoHS Directives.

Specifications

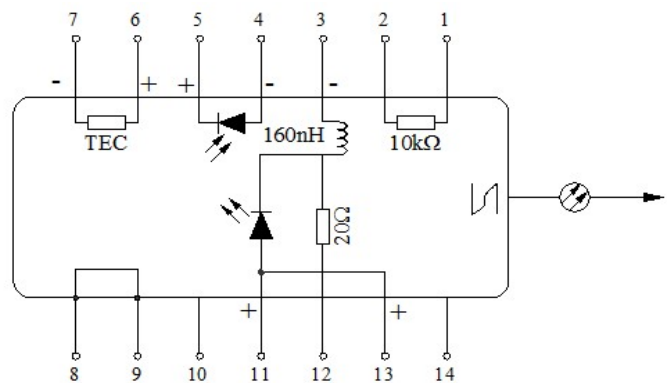
Parameters	Unit	Values	Symbol	Test Conditions
Center Wavelength	nm	See Center Wavelength Table	λ_c	TL=15~35°C, CW
Peak Optical Output Power	mW	≥ 10	P_o	$P=P_o(\text{CW})$
Spectral Linewidth	MHz	≤ 5	LW	FWHM
Sidemode Suppression Ratio	dB	≥ 40	SMSR	CW
Optical Isolation	dB	≥ 30		
Relative Intensity Noise	dB/Hz	-145	RIN	20-1000MHz
Wavelength Drift (EOL)	nm	± 0.1	$\Delta\lambda$	Tested over 25Y lifetime
Wavelength Temperature Coefficient	nm/°C	0.09(Typ.)	$\Delta\lambda/\Delta T$	TEC temperature 15~35°C
Wavelength Current Coefficient	nm/mA	0.01(Typ.)	$\Delta\lambda/\Delta I$	
Threshold Current	mA	≤ 35	I_{TH}	
Slope Efficiency	mW/mA	0.05~0.2	η	$P_o=10\text{mW}(\text{CW})$
Operating Current	mA	≤ 150	I_{op}	$P_o=10\text{mW}(\text{CW})$
TEC Set Temperature	°C	15~35	T_s	
Laser Forward Voltage	V	≤ 3	V_F	$P_o=10\text{mW}(\text{CW})$
Monitor PD Current	μA	10~2500	I_{MPD}	$P_o=10\text{mW}(\text{CW})$
Monitor Dark Current	μA	≤ 0.1	I_D	$I_F=0\text{mA}, V_{RPD}=5\text{V}$
Thermistor Current	μA	10~100	I_{TC}	
Thermistor Resistance	K Ω	9.5~10.5	R_{TH}	$T_L=25^\circ\text{C}$
TEC Current	A	-1.5~+1.5	I_{TEC}	$T_L=25^\circ\text{C}, T_C=65^\circ\text{C}$
TEC Voltage	V	-3.5~+3.5	V_{TEC}	$T_L=25^\circ\text{C}, T_C=65^\circ\text{C}$
TEC Capacity	°C	≤ 50	ΔT	$T_C=65^\circ\text{C}$
Thermistor Temperature	°C	≤ 100		
Laser Forward Current	mA	≤ 200	I_F	CW
Laser Reverse Voltage	V	≤ 2	V_R	
PD Forward Current	mA	≤ 5	I_{FPD}	
PD Reverse Voltage	V	≤ 10	V_{RPD}	
Operating Temperature	°C	-20 ~ +65	T_{op}	
Storage Temperature	°C	-40 ~ +85	T_s	

Center Wavelength Table

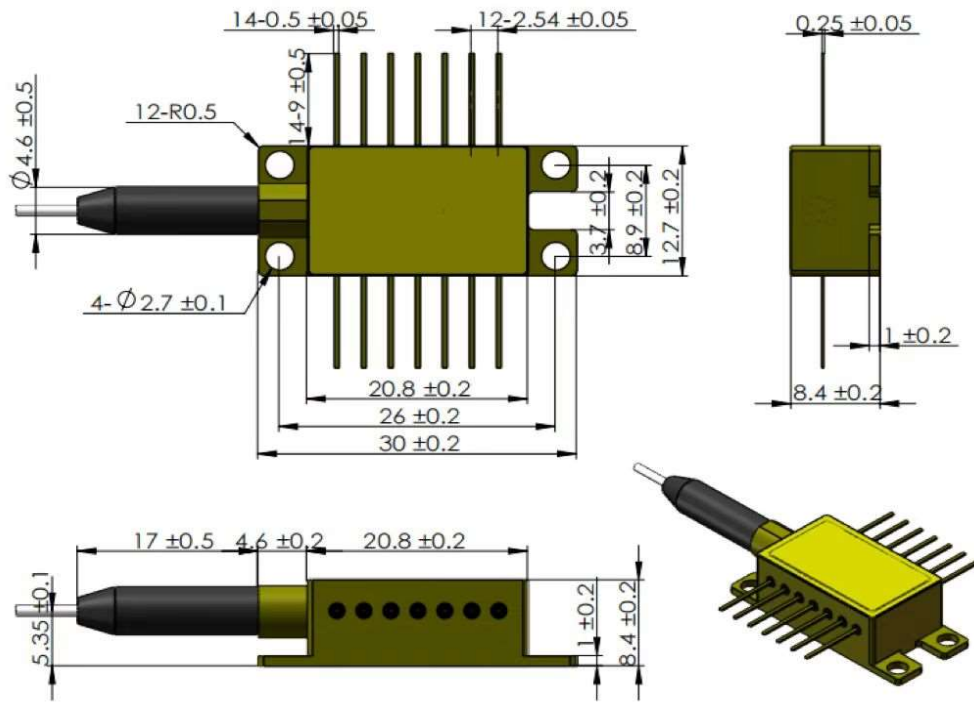
No.	Center Wavelength(nm)		
	Min.	Typical	Max.
1	1268	1270	1272
2	1288	1290	1292
3	1308	1310	1312
4	1328	1330	1332
5	1348	1350	1352
6	1368	1370	1372
7	1388	1390	1392
8	1408	1410	1412
9	1428	1430	1432
10	1448	1450	1452
11	1468	1470	1472
12	1488	1490	1492
13	1508	1510	1512
14	1528	1530	1532
15	1548	1550	1552
16	1568	1570	1572
17	1588	1590	1592
18	1608	1610	1612

Pin Assignments

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



Package Dimensions (mm)



Ordering Information

DBLD- ①①①①-②-③③③-④-⑤-⑥⑥

①	Wavelength	XXXX=Center Wavelength; 1270; 1290; ...; 1590; 1610;
②	Optical Power	1=1mW; 10=10mW; 50=50mW; 80=80mW; XX=Customization;
③	Pigtail Type	250=250μm Bare Fiber; 900=900μm Loose Tube;
④	Fiber Type	1=SMF-28e;
⑤	Fiber Length	1=1m;
⑥	Connector	NE=None; FA=FC/APC; FC=FC/UPC; SA=SC/APC; SC=SC/UPC; LC=LC/UPC; XX=Others;