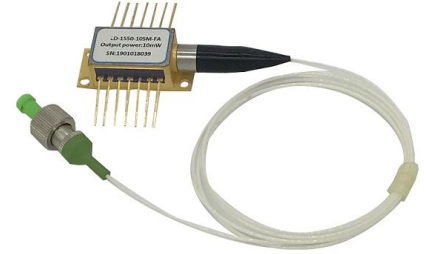


CWDM 20mW Fiber Coupled Laser

1. Features:

- 20mW 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	T _s	-	-40	-	85	°C
Operating case temperature	T _{op}	-	0	-	65	°C
Forward Current	I _F	CW	-	-	400	mA
Laser Reverse Voltage	V _{LR}	-	-	-	2	V
PD Forward Current	I _{FPD}	-	-	-	10	mA
PD Reverse Voltage	V _{RPD}	-	-	-	10	V
TEC current	I _{TEC}	-	-	-	1.5	A
TEC voltage	V _{TEC}	-	-	-	3.5	V

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

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Center Wavelength	λ _c	T _L =15~35°C CW	λ _c -3	CWDM	λ _c +3	nm
Optical Output Power	P _O	T _L =15~35°C CW	20	-	-	mW
Threshold Current	I _{TH}	-	-	15	35	mA
Slope Efficiency	η	CW output power 40mW	0.05	0.11	0.2	mW/mA
Operating current	I _{op}	P _O = 40mW (CW)	-	200	300	mA
Spectral linewidth	LW	FWHM	-	2	-	MHz
Laser Forward Voltage	V _F	CW output power 40mW	-	-	3.0	V
Monitor Dark Current	I _D	-	-	-	0.1	μA
Bandwidth(@-3dB)	BW	-	-	2.5	-	GHz
Side-mode Suppression Ratio	SMSR	CW	30	40	-	dB
Optical Isolation	-	-10 < T _C < +70°C	30	35	-	dB

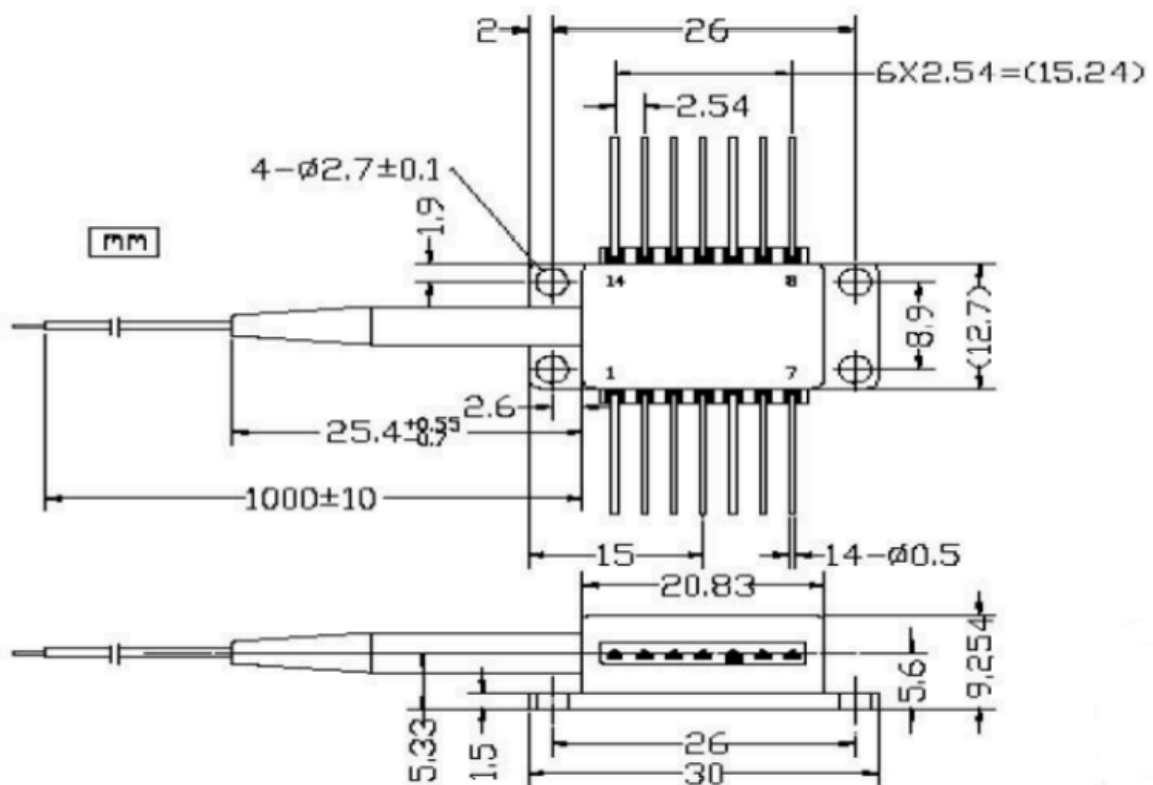
CWDM 20mW SM Fiber Coupled Laser
LD-CWDM-20SM-FA

Polarization Extinction Ratio	PER	-	20	-	-	dB
Relative Intensity Noise	RIN	20 - 1000MHz	-	-160	-	dB
TEC set temperature	T _s	-	20	-	35	℃
Input Impedance	Z _{IN}	-	-	20	-	Ω
Thermistor Current	I _{TC}	-	10	-	100	μA
Thermistor Resistance	R _{TH}	T _L = 25℃	9.5	10	10.5	KΩ
TEC Current	I _{TEC}	T _L = 25℃, T _C = 70℃	-	0.6	1.5	A
TEC Voltage	V _{TEC}	T _L = 25℃, T _C = 70℃	-	1.3	3.5	V
TEC capacity	ΔT	T _C = 70℃	-	-	50	℃
Thermistor temperature	-	-	-	-	100	℃
Wavelength Drift (EOL)	Δλ	Tested over 25-year lifetime	-	-	±0.1	nm
Wavelength Temp. coefficient	Δλ/ΔT	0℃ <T _{case} < 65℃	-	-	0.09	nm/℃
Wavelength current coefficient	Δλ/ΔI	20℃ <T _λ < 35℃	0.07	-	0.12	nm/mA

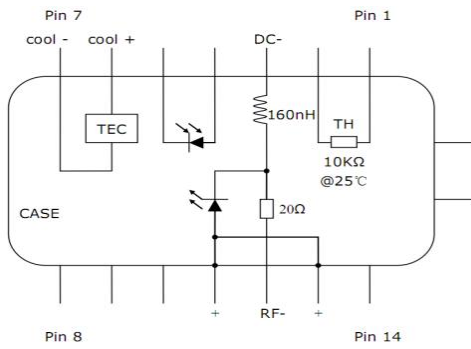
5. Optical Fiber Specifications:

Parameters	Description
Fiber Type	SM 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	NC
7	TEC(-)	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 Other	10: 10mW 20: 20mW 40: 40mW Customized	SM : Single mode PM : Polarization maintaining	FA : FC/APC SA : SC/APC Other	NULL: Type 1

E.g.:LD-1550-40SM-FA (Order information: 1550nm DFB Laser diode with 40mW output power, and SM fiber with FC/APC connector, PIN-OUT is Type 1).