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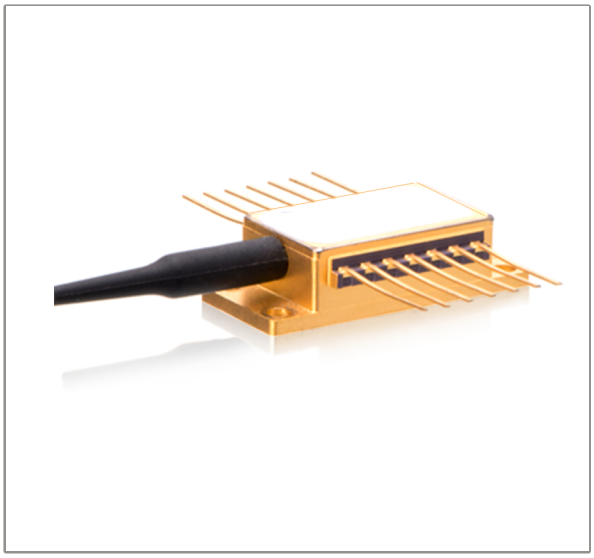
LASER LAB SOURCE

manufactured by NOLATECH

DFB-1550-10X

1550nm DFB Laser, 10mW, Butterfly Package with PM Fiber Pigtail

- Discrete Wavelengths Available from 1530nm to 1570nm
- >10 mW Optical Output Power
- PM Fiber with FC/APC Connector
- Butterfly Packaged, Internal TE cooler, Thermistor and Monitor PD



Product Overview:

These DFB lasers are offered in a butterfly package with PM fiber pigtail that is terminated with an FC/APC connector. They deliver > 10 milliwatts of optical output power and are single transverse mode. These modules are fiber coupled with a 1 meter PM fiber. These lasers are designed for sensing and measurement applications as well as for communication instrument products. The fourteen pin standard footprint butterfly package includes a monitor PD, a TE cooler and a 10K thermistor.

Key Features:

These lasers are available at any C-band wavelength from 1527nm to 1563nm across the ITU grid. They are offered at standard 100 GHz spaced wavelength (+/- 0.5nm) and can be temperature tuned approximately +/- 0.75nm from their center point. They offer a full width half maximum spectral width of 1 nanometer (typical). Their integrated cooler requires 2.7 volts and 1 amp under maximum thermal load conditions. These DFB's typically require 300 mA to reach their maximum optical output power rating of 10mW. They offer an extinction ratio of > 17 dB and a guassian beam profile.

DFB Laser Diode 1550nm

Optical and electrical characteristics: (T = 25°C)

Item	Symbol	Test condition	Min.	Typ.	Max.	Unit
Output Power	P_f			15	20	mW
Forward Voltage	V_F	P_f=15mW			2.5	V
Threshold Current	I_{th}			40	60	mA
Forward Current	I_F	P_f=15mW		150	300	mA
Center Wavelength	λ_c	P_f=15mW	1530		1570	nm
Spectral Width	$\Delta\lambda$	P_f=15mW		1	3	nm
Monitor Current	I_m	P_f=15mW, V_{RD}=5V	40		500	μA
PD Dark Current	I_d	V_{RD}=5V			0.1	μA
Cooler Voltage	V_C	I_F=EOL, TC=70°C			2.7	V
Cooler Current	I_C	I_F=EOL, TC=70°C			1.4	A
Thermal Resistance	R_o	T_{LD}=25°C, B=3900±100K	9.5	10.0	10.5	kΩ
Extinction Ratio	X_P	P_f=15mW	17			dB

Absolute Maximum Ratings

Item	Symbol	Rating	Unit
LD Forward Current	I_f	300	mA
LD Reverse Voltage	V_r	1.8	V
PD Reverse Voltage	V_{RD}	10	V
Operation Case Temperature	T_C	-40 to +70	°C
Storage Temperature	T_{stg}	-40 to +85	°C
Cooler Current	I_C	1.4	A

PACKAGING

No.	FUNCTION	No.	FUNCTION
1	Cooler anode	8	NC
2	Thermistor	9	NC
3	PD anode	10	LD anode
4	PD cathode	11	LD cathode
5	Thermistor	12	NC
6	NC	13	Case
7	NC	14	Cooler anode