

NEC

1480 nm EDFA APPLICATION
InGaAsP MQW-FP
LASER DIODE MODULE

NX7460LE

FEATURES

- InGaAsP MQW-FP LASER DIODE
- HIGH OUTPUT POWER:
Pf = 120 mW MIN @ If = 550 mA CW
- INTERNAL OPTICAL ISOLATOR, THERMOELECTRIC COOLER AND InGaAs MONITOR PHOTO DIODE
- SINGLE MODE FIBER PIGTAIL
- HERMETICALLY SEALED 14-PIN BUTTERFLY PACKAGE

DESCRIPTION

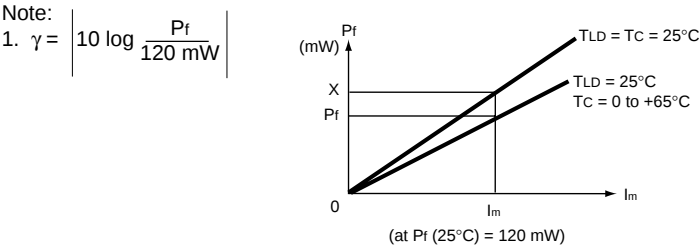
The NX7460LE is a 1480 nm pumping laser diode module with optical isolator for an EDFA (Er Doped optical Fiber Amplifier) that can expand the transmission span and compensate optical losses. This device is a Multiple Quantum Well (MQW) structured Fabry-Perpt (FP) Laser Diode that features high output power, high efficiency and stable fundamental mode.

ELECTRO-OPTICAL CHARACTERISTICS (TLD = 25°C, Tc = 0 to +65°C)

PART NUMBER			NX7460LE		
SYMBOLS	PARAMETERS AND CONDITIONS	UNITS	MIN	TYP	MAX
ITH	Threshold Current, CW	mA		25	35
VF	Forward Voltage, If = 550 mA	V		2.2	2.7
Pf	Optical Output Power from Fiber, If = 550 mA	mW	120	140	
λc	Center Wavelength, If = 550 mA, RMS (-20 dB)	nm	1460	1480	1490
σ	Spectrum Width, If = 550 mA, RMS (-20 dB)	nm		4.0	8.0
Is	Isolation, 1470 nm to 1490 nm	dB	20		

ELECTRO-OPTICAL CHARACTERISTICS (Applicable to Monitor PD: T_{LD} = 25°C, T_c = 0 to +65°C)

PART NUMBER			NX7460LE		
SYMBOLS	PARAMETERS AND CONDITIONS	UNITS	MIN	TYP	MAX
I _m	Monitor Current, V _R = 5 V, I _F = 550 mA	μA	500	1000	1500
I _D	Monitor Dark Current, V _R = 5 V	nA		2	10
γ ¹	Tracking Error, I _m = const.	dB			0.5



ELECTRO-OPTICAL CHARACTERISTICS (Applicable to Thermistor and TEC: T_{LD} = 25°C, T_c = 0 to +65°C)

PART NUMBER			NX74604E		
SYMBOLS	PARAMETERS AND CONDITIONS	UNITS	MIN	TYP	MAX
R	Thermistor Resistance, T _{LD} = 25°C	kΩ	9.5	10.0	10.5
B	B Constant	K	3350	3450	3550
I _c	Cooler Current, ΔT = 40° C, I _F = 660 mA	A		1.1	1.25
V _c	Cooler Voltage, ΔT = 40° C, I _F = 660 mA	V		3.7	4.3
ΔT ¹	Cooling Capacity, I _c = 1.25 A, I _F = 660 mA	K	40		

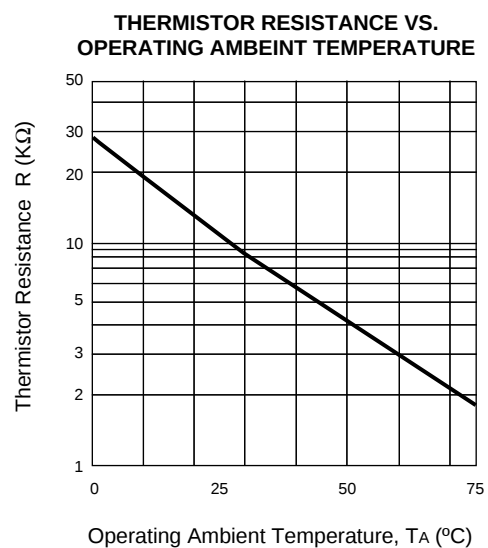
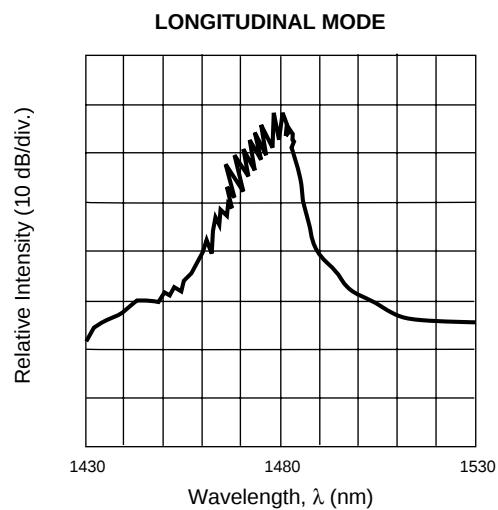
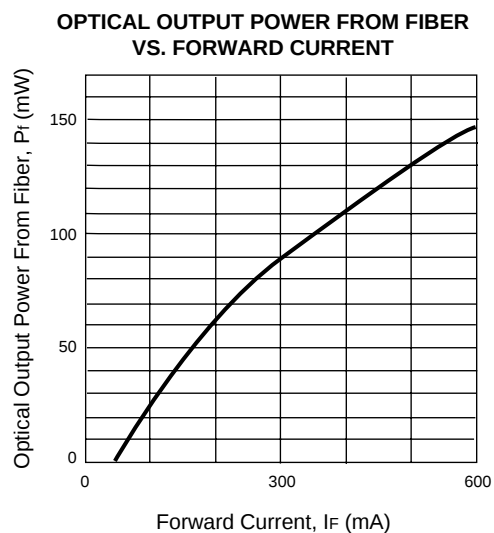
Note:
1. ΔT = |T_c — T_{LD}|

ABSOLUTE MAXIMUM RATINGS¹

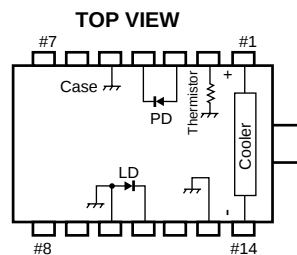
(T_c = 25°C, unless otherwise specified)

SYMBOLS	PARAMETERS	UNITS	RATINGS
I _F	Forward Current of LD	mA	700
V _R	Reverse Voltage of LD	V	2.0
I _F	Forward Current of PD	mA	10
V _R	Reverse Voltage of PD	V	20
T _c	Operating Case Temperature	°C	-20 to +65
T _{STG}	Storage Temperature	°C	-40 to +85
T _{SLD}	Lead Soldering Temperature (10 s)	°C	260
I _t	Thermistor Current	mA	0.5
V _t	Thermistor Voltage	V	12.0
I _c	Cooler Current	A	1.8
V _c	Cooler Voltage	V	6.0

Note:
1. Operation in excess of any one of these parameters may result in permanent damage.

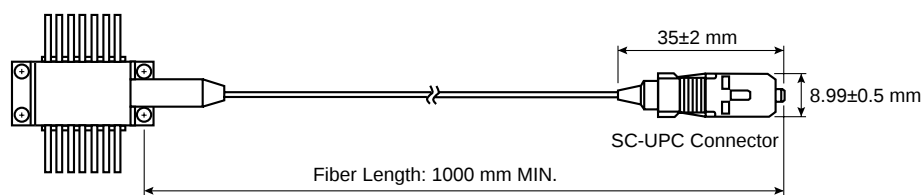
TYPICAL PERFORMANCE CURVES ($T_C = 25^\circ\text{C}$)

Remark: The graphs indicate nominal characteristics.



PIN No.	FUNCTION	PIN No.	FUNCTION
1	COOLER ANODE	8	NC
2	THERMISTOR	9	NC
3	PD ANODE	10	LD ANODE,
4	PD CATHODE		CASE GROUND
5	CASE GROUND	11	LD CATHODE
6	NC	12	NC
7	NC	13	CASE GROUND
		14	COOLER CATHODE

PARAMETER	UNITS	SPECIFICATION
Mode Field Diameter	μm	9.5±1
Cladding Diameter	μm	125±2
Maximum Cladding Noncircularity	%	2
Maximum Core/Cladding Concentricity	%	1.6
Outer Diameter	mm	0.9±0.1
Cut-off Wavelength	nm	1100 to 1270
Minimum Fiber Bending Radius	mm	30
Fiber Length	mm	1000 MIN
Flammability	UL 1581 VW-1	



Part Number	Available Connector
NX7460LE	Without Connector
NX7460LE-BA	With FC-PC Connector
NX7460LE-CA	With SC-PC Connector