

DATA SHEET



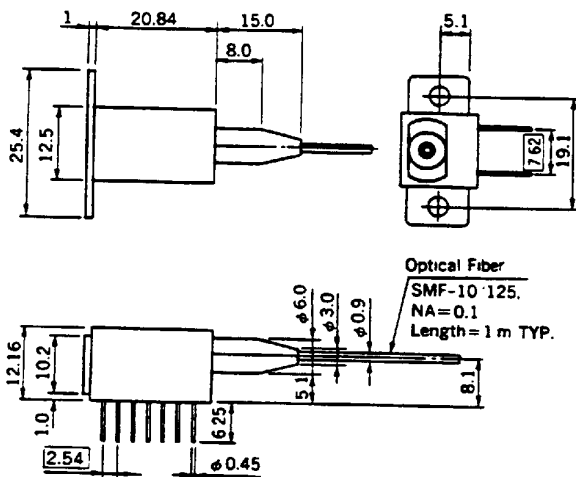
LASER DIODE MODULE
NDL5762P

1 310 nm OPTICAL FIBER COMMUNICATIONS
InGaAsP DC-PBH PULSED LASER DIODE MODULE

DESCRIPTION

NDL5762P is a 1310 nm pulsed laser diode DIP module with singlemode fiber and internal thermo-electric cooler. It is designed for a light source of optical measurement equipment (OTDR) and optical transmission systems. In addition, it incorporates a lens for optical coupling between laser chip and optical fiber and YAG laser welding technique is utilized. Therefore, this lens coupling system can achieve stable optical output power as well as high coupling efficiency in wide operating temperature range.

PACKAGE DIMENSIONS
in millimeters



FEATURES

- High output power. $P_f = 30 \text{ mW}$ @ $I_{FP} = 400 \text{ mA}$ *1
- Long wavelength $\lambda_0 = 1310 \text{ nm}$
- Internal thermo-electric cooler.
- Hermetically sealed 14 pin Dual-In-Line Package.
- Singlemode fiber pigtail.
- High reliability.

ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

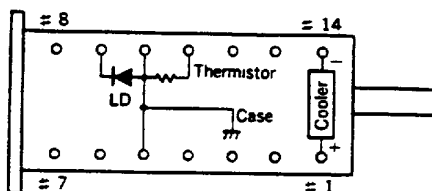
Pulsed Forward Current *1	I_{FP}	600	mA
Reverse Voltage	V_R	2.0	V
Operating Case Temperature	T_c	-20 to +65	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40 to +70	$^\circ\text{C}$
Lead Soldering Temperature (10 s)	T_{slid}	260	$^\circ\text{C}$

*1 Pulse Condition: Pulse Width = 1 μs , Duty = 1%

PIN CONNECTIONS

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

BOTTOM VIEW



NEC cannot assume any responsibility for any circuits shown or represent that they are free from patent infringement.

ELECTRO-OPTICAL CHARACTERISTICS ($T_{LD} = 25\text{ }^\circ\text{C}$, $T_c = -20\text{ to }+65\text{ }^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
DC Forward Voltage	V_F			1.5	V	$I_F = 30\text{ mA}$
DC Threshold Current	I_{th}		20	35	mA	
Optical Output Power from Fiber	P_f	20	30		mW	$I_{FP} = 400\text{ mA}$, $PW = 1\text{ }\mu\text{s}$, Duty = 1 %
Stability of Optical Output Power	ΔP_f			0.5	dB	$I_{FP} = 400\text{ mA}$, $PW = 1\text{ }\mu\text{s}$, Duty = 1 %
Center Wavelength	λ_0	1290	1310	1330	nm	$I_{FP} = 400\text{ mA}$, $PW = 1\text{ }\mu\text{s}$, Duty = 1 %
Spectral Width	$\Delta\lambda$			20	nm	$I_{FP} = 400\text{ mA}$, $PW = 1\text{ }\mu\text{s}$, Duty = 1 %
P_f Rise Time	t_r		0.5	1.0	ns	10 – 90 %
P_f Fall Time	t_f		0.7	1.0	ns	90 – 10 %

ELECTRO-OPTICAL CHARACTERISTICS (Applicable to Thermistor and TE Cooler: $T_{LD} = 25\text{ }^\circ\text{C}$, $T_c = -20\text{ to }+65\text{ }^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Thermistor Resistance	R^{*2}	9.5	10	10.5	$k\Omega$	$T_{LD} = 25\text{ }^\circ\text{C}$
Cooler Current	I_c		0.6	1.0	A	$\Delta T = 40\text{ K}$
Cooler Voltage	V_c		1.1	1.5	V	$\Delta T = 40\text{ K}$
Cooling Capacity	ΔT^{*3}	40			K	$I_C = 1.0\text{ A}$

*2 B Constant (= 3 400±100 K)

*3 $\Delta T = |T_c - T_{LD}|$

TYPICAL CHARACTERISTICS ($T_a = 25\text{ }^\circ\text{C}$)

