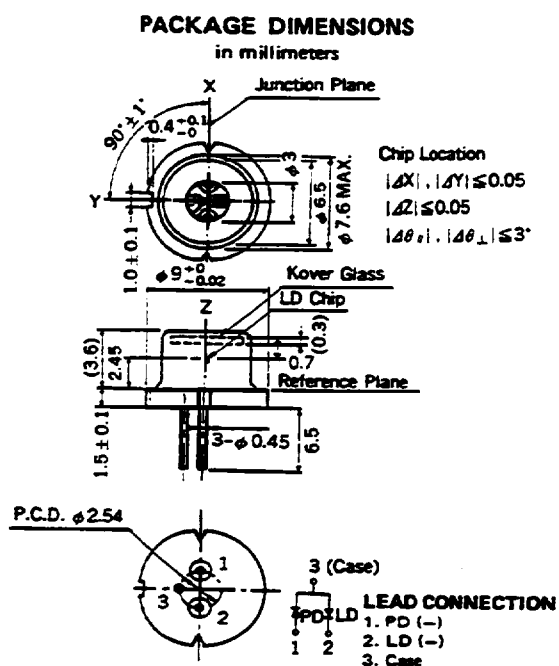


670 nm BAR CODE READER, POINTER APPLICATION
AlGaInP DOUBLE HETEROSTRUCTURE VISIBLE LASER DIODE

DESCRIPTION

NDL3200 is an AlGaInP 670 nm visible laser diode and especially developed for Bar Code Reader, Pointer.



FEATURES

- Peak Emission Wavelength $\lambda_p = 670$ nm
- Internal PIN detector.
- Fundamental transverse mode.

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

Optical Output Power	P_O	4.0	mW
Reverse Voltage	V_R	2.0	V
Operating Case Temperature	T_C	-10 to +50	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40 to +85	$^\circ\text{C}$
Monitor PD			
Reverse Voltage	V_R	30	V
Forward Current	I_F	20	mA

RECOMMENDED OPERATING CONDITIONS

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT
Optical Output Power	P_O			3.0	mW

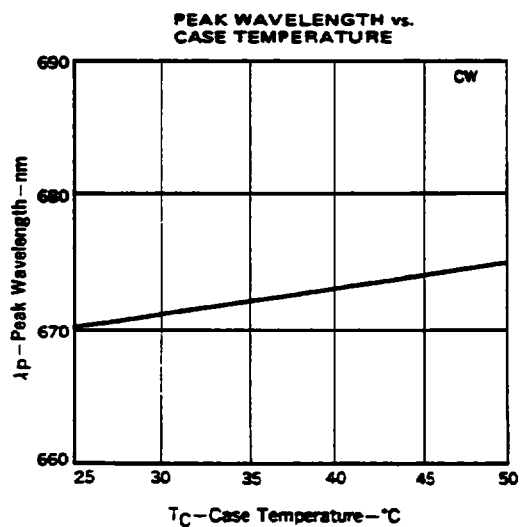
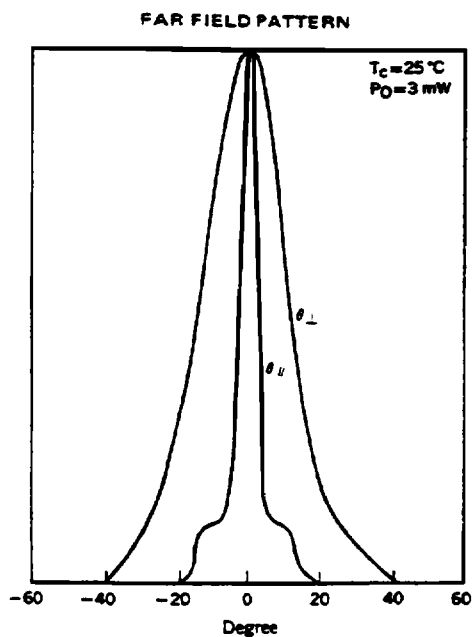
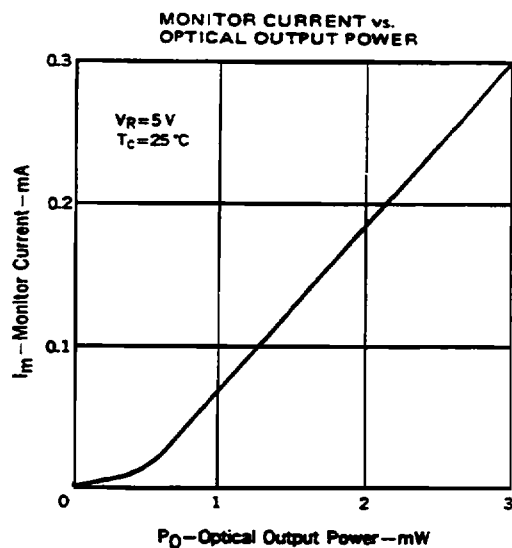
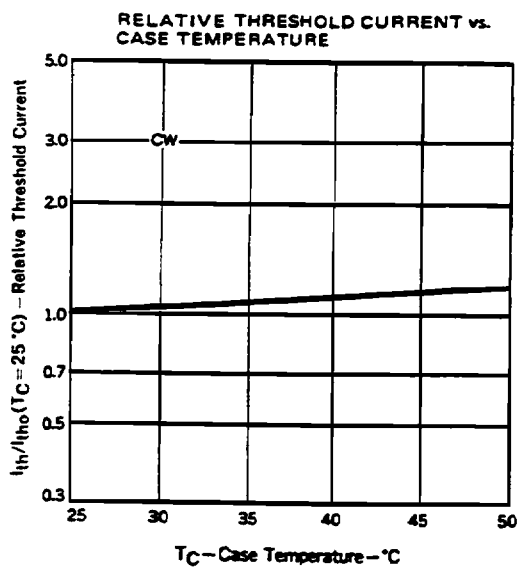
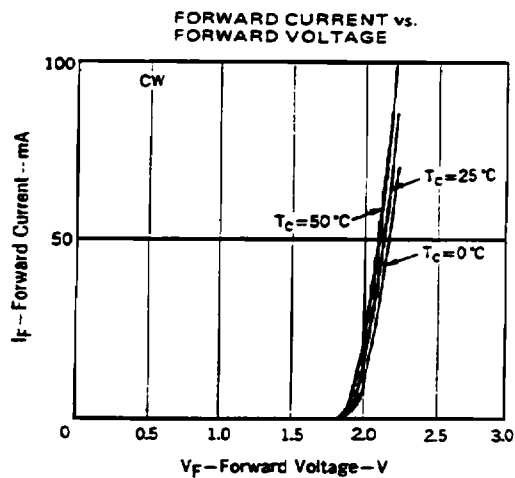
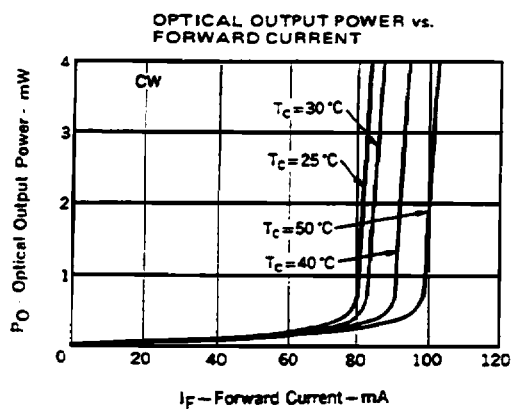
ELECTRO-OPTICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Operating Voltage	V_{op}		2.2	3.0	V	$P_O = 3.0$ mW
Threshold Current	I_{th}		80	93	mA	CW
Operating Current	I_{op}		85	98	mA	$P_O = 3.0$ mW
Monitor Current	I_m	0.1	0.3	0.5	mA	$P_O = 3.0$ mW, $V_R = 5$ V
Peak Emission Wavelength	λ_p	660	670	680	nm	$P_O = 3.0$ mW
Vertical Beam Angle	$\theta_{\perp}$	27	34	40	deg.	$P_O = 3.0$ mW, FAHM*
Lateral Beam Angle	$\theta_{\parallel}$	5	7	12	deg.	$P_O = 3.0$ mW, FAHM*

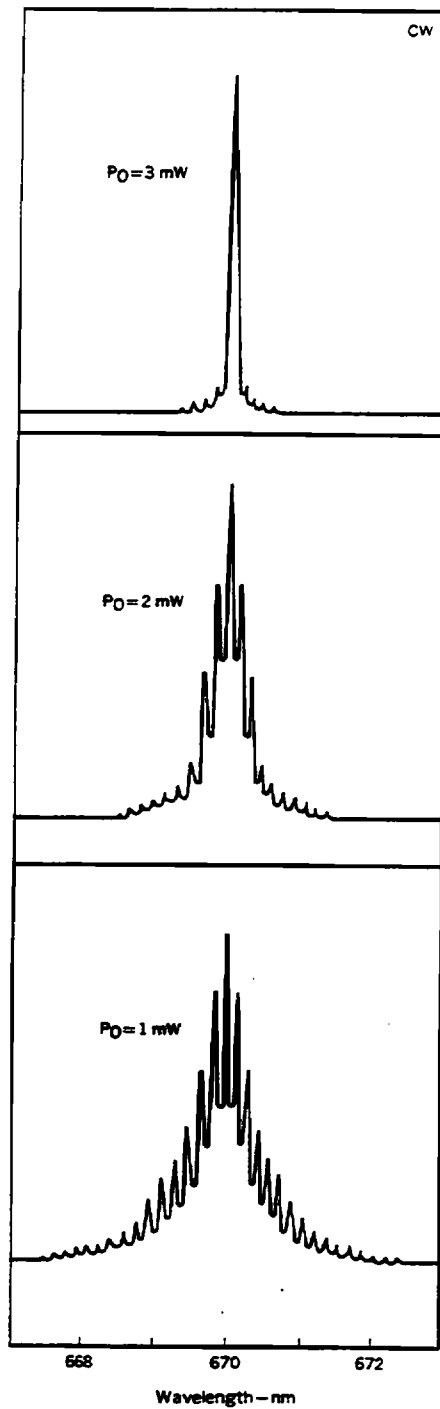
*FAHM: Full Angle at Half Maximum

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

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



POWER DEPENDENCY OF LONGITUDINAL
MODE (LINEAR)



Exceeding absolute maximum ratings' value may cause destruction or degradation of the device.



VISIBLE LASER RADIATION
AVOID DIRECT EXPOSURE TO BEAM
OUTPUT POWER 40mW MAX
WAVELENGTH 650-690nm
CLASS III LASER PRODUCT

SEMICONDUCTOR LASER



AVOID EXPOSURE-Visible
Laser Radiation is emitted from
this aperture

NEC Corporation

NEC Building, 33-1, Shiba Gochoh,
Minato-ku, Tokyo 108, Japan

Type number: NDL3200
Lot number: _____
Serial number: _____