NEC

5 mW, 650 nm VISIBLE LASER DIODE HIGH OPERATING TEMPERATURE

NDL3325ST NDL3325SU

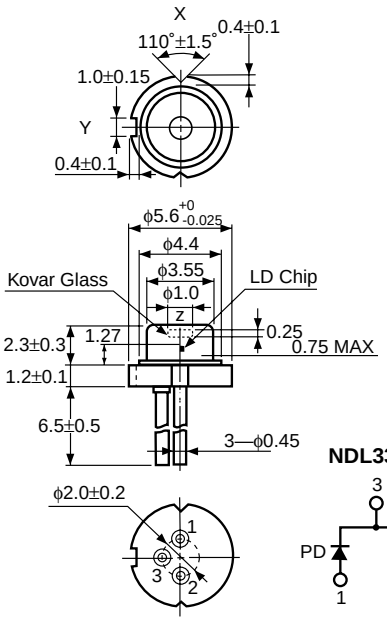
FEATURES

- **OPTICAL OUTPUT POWER:** P_O = 5.0 mW
- **LOW THRESHOLD CURRENT:** I_{TH} = 40 mA TYP
- **LOW OPERATING CURRENT:** I_{OP} = 50 mA TYP
- **LOW OPERATING VOLTAGE:** V_{OP} = 2.1 V TYP
- **HIGH OPERATING TEMPERATURE:** T_C = -20 to +80 ˚C
- **PEAK EMISSION WAVELENGTH:** λp = 650 nm TYP
- **FUNDAMENTAL TRANSVERSE MODE**

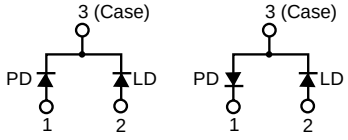
DESCRIPTION

The NDL3325ST and NDL3325SU are AlGaInP 650 nm visible laser diodes specially developed for DVD applications. The newly developed Multiple Quantum Well (MQW) LD chip, can achieve low operating current and high operating temperature.

OUTLINE DIMENSIONS (Units in mm)



Chip Location
|⊿X|, |⊿Y| ≤ 0.08
|⊿Z| ≤ 0.1
|⊿θ// |, |⊿θ⊥| ≤ 2˚



Pin Connections

1. PD Anode	1. PD Cathode
2. LD Anode	2. LD Anode
3. Case Ground	3. Case Ground

ELECTRO-OPTICAL CHARACTERISTICS (T_C = 25˚C)

PART NUMBER			NDL3325ST, NDL3325SU		
SYMBOLS	**PARAMETERS AND CONDITIONS**	**UNITS**	**MIN**	**TYP**	**MAX**
V_{OP}	Operating Voltage, P_O = 5.0 mW	V		2.1	2.7
I_{TH}	Threshold Current, CW	mA		40	65
I_{OP}	Operating Current, P_O = 5.0 mW	mA		50	80
I_M	Monitor Current, V_R = 5 V, P_O = 5.0 mW	mA	0.1	0.3	0.5
λp	Peak Emission Wavelength, P_O = 5.0 mW	nm	645	650	657
$\theta_\perp$	Vertical Beam Angle, P_O = 5.0 mW, FAHM[1]	deg.	25	30	35
$\theta_{//}$	Lateral Beam Angle, P_O = 5.0 mW, FAHM[1]	deg.	6	8	10

Note:

1. FAHM: Full Angle at Half Maximum.

ABSOLUTE MAXIMUM RATINGS[1]

(TC = 25˚C, unless otherwise specified)

SYMBOLS	PARAMETERS	UNITS	RATINGS
P_O	Optical Output Power	mW	8.0
V_R	Reverse Voltage of LD	V	2.0
I_F	Forward Current of PD	mA	20
V_R	Reverse Voltage of PD	V	30
T_C	Operating Case Temperature	˚C	-20 to +80
T_{STG}	Storage Temperature	˚C	-40 to +85

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

RECOMMENDED OPERATING CONDITIONS (T_C = 25˚C)

SYMBOL	PARAMETER	UNIT	MIN	TYP	MAX
P_O	Optical Output Power	mW			5.0

CAUTION

Within this device there is GaAs (Gallium Arsenide) material which is a harmful substance if ingested. Please do not break the hermetic seal under any circumstances.

Warning on Handling

To prevent health hazards, avoid looking directly or through lenses at beams from the operating laser diode.

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