PRELIMINARY DATA SHEET

NEC

VISIBLE LASER DIODE
NV6510ST,NV6510SU

10 mW, 655 nm VISIBLE LASER DIODE
HIGH OUTPUT POWER AND LOW CURRENT

DESCRIPTION

The NV6510ST and NV6510SU are AlGaInP 650 nm visible laser diodes and especially developed for DVD applications. The newly developed Multiple Quantum Well (MQW) LD chip, can achieve low operating current, high operating temperature and optical output power 10 mW.

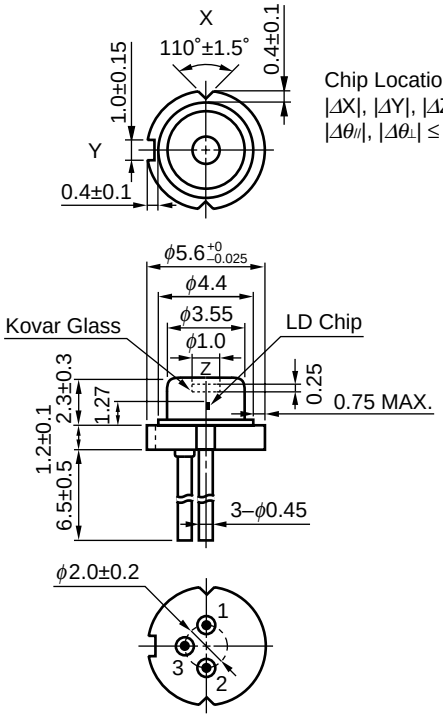
FEATURES

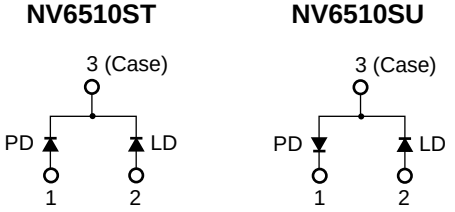
- Optical output power P_o = 10 mW
- Low threshold current I_{th} = 30 mA TYP.
- Low operating current I_{op} = 45 mA TYP.
- Low operating voltage V_{op} = 2.4 V TYP.
- High operating temperature T_C = –10 to +70 °C
- Peak emission wavelength λ_p = 655 nm TYP.
- Fundamental transverse mode

APPLICATIONS

- DVD-ROM, DVD Player

PACKAGE DIMENSIONS
in millimeters





PIN CONNECTIONS

NV6510ST	NV6510SU
1. PD Anode	1. PD Cathode
2. LD Anode	2. LD Anode
3. Case Ground	3. Case Ground

Document No. P14115EJ1V0DS00 (1st edition)
Date Published February 1999 NS CP(K)
Printed in Japan

ABSOLUTE MAXIMUM RATINGS (T_C = 25 °C, unless otherwise specified)

Parameter	Symbol	Ratings	Unit
Optical Output Power	P_O	12.0	mW
Reverse Voltage of LD	V_R	2.0	V
Forward Current of PD	I_F	20	mA
Reverse Voltage of PD	V_R	30	V
Operating Case Temperature	T_C	–10 to +70	°C
Storage Temperature	T_{stg}	–40 to +85	°C

RECOMMENDED OPERATING CONDITIONS (T_C = 25 °C)

Parameter	Symbol	MIN.	TYP.	MAX.	Unit
Optical Output Power	P_o			10.0	mW

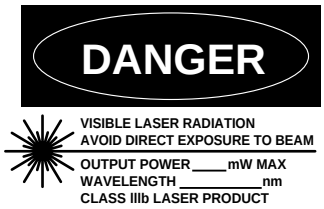
ELECTRO-OPTICAL CHARACTERISTICS (T_C = 25 °C)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Operating Voltage	V_{op}	P_o = 10.0 mW		2.4	2.5	V
Threshold Current	I_{th}	CW		30	50	mA
Operating Current	I_{op}	P_o = 10.0 mW		45	65	mA
Monitor Current	I_m	V_R = 5 V, P_o = 10.0 mW	0.1	0.2	0.5	mA
Peak Emission Wavelength	λ_p	P_o = 10.0 mW	645	655	659	nm
Vertical Beam Angle	$\theta_\perp$	P_o = 10.0 mW, FAHM[*1]	27	30	33	deg.
Lateral Beam Angle	$\theta_{//}$	P_o = 10.0 mW, FAHM[*1]	7	8	10	deg.

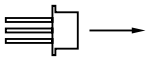
***1** FAHM: Full Angle at Half Maximum

CAUTION

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



SEMICONDUCTOR LASER



AVOID EXPOSURE-Visible Laser Radiation is emitted from this aperture

NEC Corporation
NEC Building, 7-1, Shiba 5-chome, Minato-ku, Tokyo 108-01, Japan
Type number: _____
Manufactured: _____
Serial Number: _____
This product conforms to FDA regulations as applicable to standards 21 CFR Chapter 1. Subchapter J.

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.

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M7D 98. 12