To our customers,

Old Company Name in Catalogs and Other Documents

On April 1st, 2010, NEC Electronics Corporation merged with Renesas Technology Corporation, and Renesas Electronics Corporation took over all the business of both companies. Therefore, although the old company name remains in this document, it is a valid Renesas Electronics document. We appreciate your understanding.

Renesas Electronics website: http://www.renesas.com

April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (http://www.renesas.com)

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RENESAS

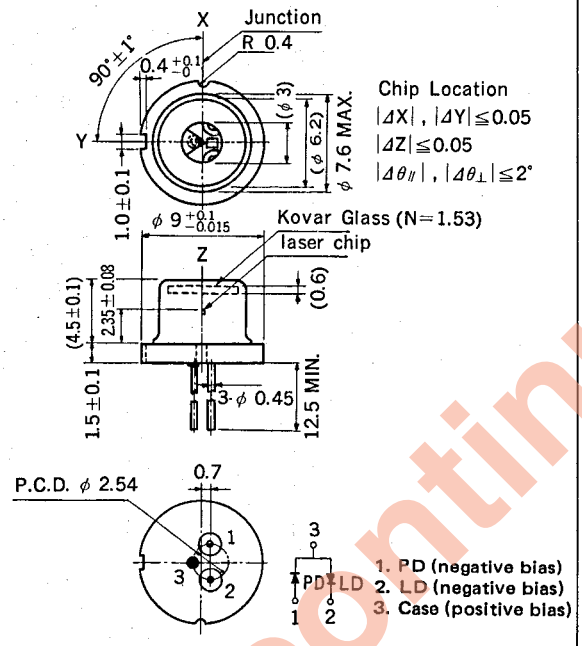
LASER DIODE
NDL3000

DAD,VD APPLICATION
AlGaAs DOUBLE HETEROSTRUCTURE LASER DIODE

DESCRIPTION

NDL3000 laser diode is developed for DAD(Digital Audio Disk), Video Disk optical head and non impact laser printer. The PCW(Plano Convex Waveguide) structure can achieve stable single-mode operation both longitudinal and transverse mode.

PACKAGE DIMENSIONS
in millimeters



FEATURES

- Accurate chip location.
- Visible wavelength, λ_0 = 780 nm.
- Internal PIN detecter.
- Single mode.

ABSOLUTE MAXIMUM RATINGS (T_a = 25 °C)

Optical Output Power	P_O	8.0	mW
Reverse Voltage	V_R	2.0	V
Operating Temperature	T_{opt}	−10 to +70	°C
Storage Temperature	T_{stg}	−55 to +125	°C
Monitor PD			
Reverse Voltage	V_R	30	V
Forward Current	I_F	100	mA

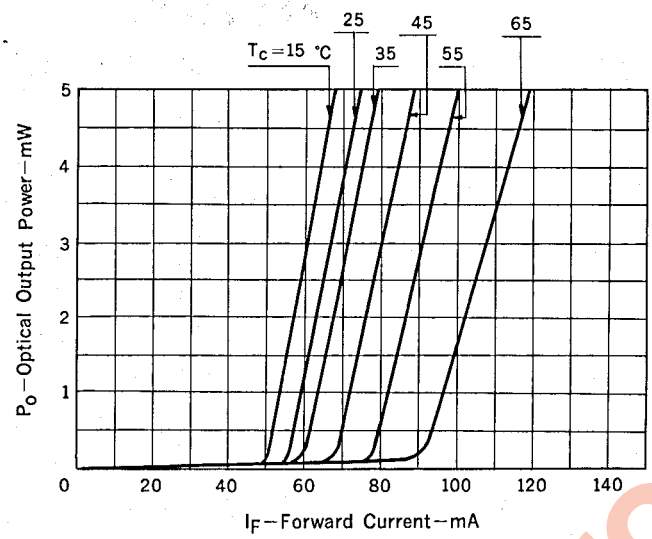
ELECTRO-OPTICAL CHARACTERISTICS (T_a = 25 °C)

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Forward Voltage	V_F		1.9	2.5	V	$I_F = I_{th} + 20$ mA
Threshold Current	I_{th}		50	80	mA	
Optical Output Power	P_O	3.0	5.0		mW	$I_F = I_{th} + 20$ mA
Monitor Current	I_m	0.5	1.0	2.0	mA	P_O = 3.0 mW, V_R = 15 V
Center Wavelength	λ_0	760	780	800	nm	P_O = 3.0 mW
Half Power Spectral Width	$\Delta\lambda$			1.0	nm	P_O = 3.0 mW
Beam Spread (Vertical)	$2\theta_\perp$		40	50	Deg.	
Beam Spread (Lateral)	$2\theta_{//}$	10	12		Deg.	
Terminal Capacitance of Monitor PD	C_t		5	10	pF	V_R = 15 V
Dark Current of Monitor PD	I_D			100	nA	V_R = 15 V

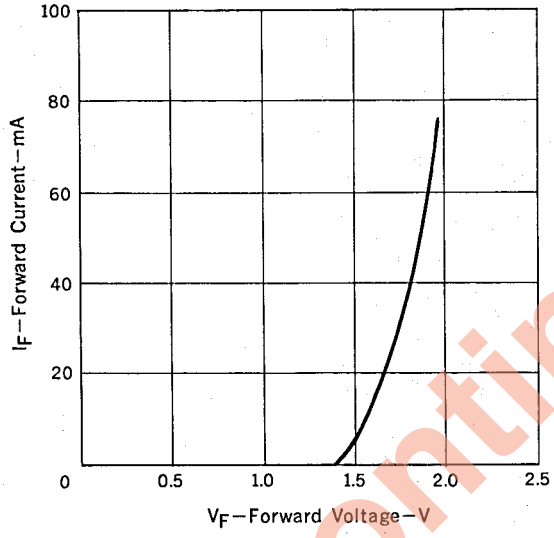
NEC Corporation

TYPICAL CHARACTERISTICS (T_a = 25 °C)

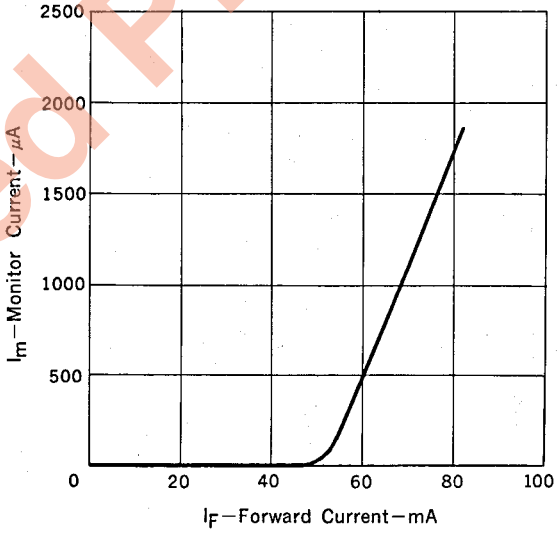
OPTICAL OUTPUT POWER vs. FORWARD CURRENT

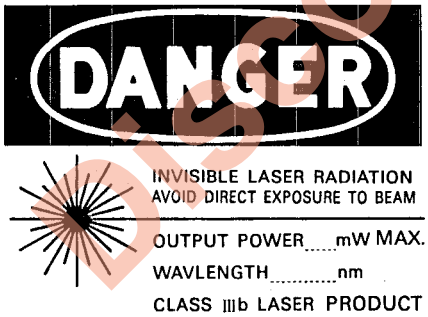


FORWARD CURRENT vs. FORWARD VOLTAGE



MONITOR CURRENT vs. FORWARD CURRENT





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