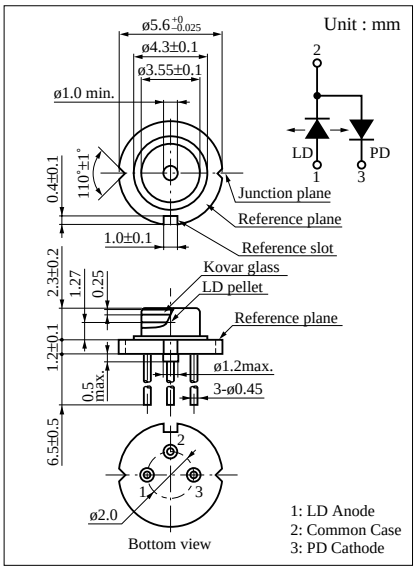
LNC803PS

High Power Output Semiconductor Laser



■ Overview

The LNC803PS is a GaAlAs laser diode which provides stable, continuous, single mode oscillation of near infrared light at room temperature. This product can be used in a wide range of light source applications, including laser printers, facsimiles, optical disk memory, and optical information devices.

■ Features

- Low threshold oscillation
- Stable single horizontal mode oscillation
- Built-in PIN photodiode for light output monitors
- Light output is continuously variable as far as 60 mW
- Supports direct modulation
- Near infrared oscillating wavelength
- Long lifetime, high reliability

■ Absolute Maximum Ratings (Ta = 25˚C)

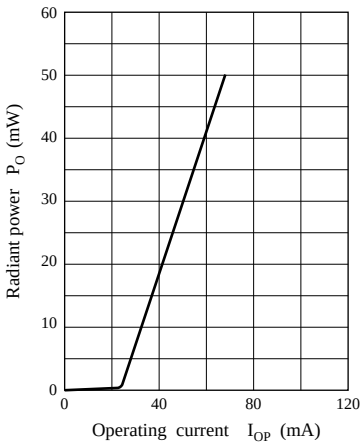
Parameter		Symbol	Ratings	Unit
Radiant power		P_O	40	mW
Reverse voltage	Laser	V_R	1.5	V
	PIN	V_R (PIN)	30	V
Power dissipation		P_d (PIN)	100	mW
Operating ambient temperature		T_{opr}	–10 to +60	˚C
Storage temperature		T_{stg}	– 40 to +80	˚C

■ Electro-Optical Characteristics (Ta = 25˚C)

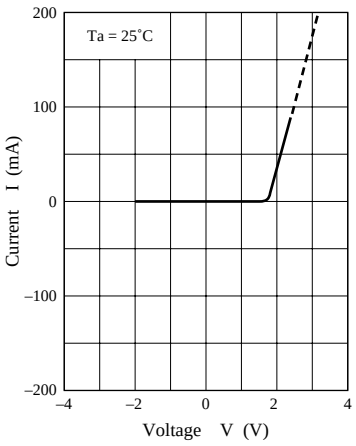
Parameter		Symbol	Conditions	min	typ	max	Unit
Threshold current		I_{th}	CW	10	25	40	mA
Operating current		I_{OP}	P_O = 32mW	30	50	90	mA
Operating voltage		V_{OP}	P_O = 32mW		2.0	3.0	V
Oscillation wavelength		λ_L	P_O = 32mW	815	830	845	nm
Radiation angle	Horizontal direction	$\theta_{//}$*	P_O =32mW	7	10	13	deg.
	Vertical direction	$\theta_{\perp}$*	P_O = 32mW	18	25	28	deg.
Differential efficiency		η	CW P_O = 28mW/I(30mW – 4mW)	0.6	1.0	1.5	mW/mA
Reverse current (DC)		I_R	V_R (PIN) = 5V			0.1	µA
PIN photo current		I_P	P_O = 32mW, V_R (PIN) = 5V				mA
Optical axis accuracy	X direction	θ_X	P_O = 32mW	–2.0		+2.0	deg.
	Y direction	θ_Y	P_O = 32mW	–3.0		+3.0	deg.
Oscillation mode		Single horizontal mode					

* $\theta_{//}$ and $\theta_{\perp}$ are the angles where the optical intencity is a half of its max. value.(half full angle)

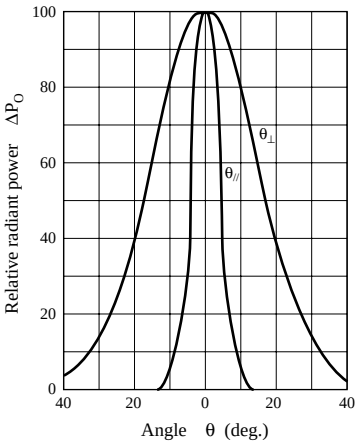
P_O — I_{OP}



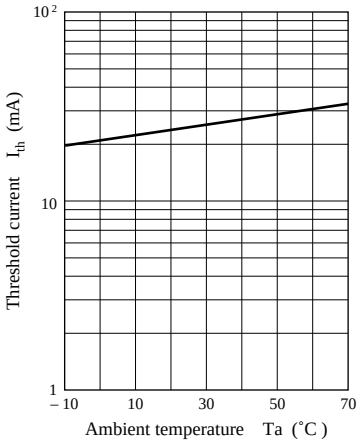
I — V



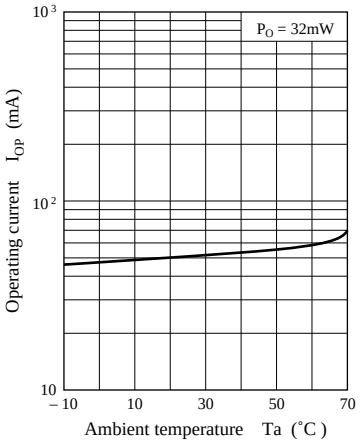
Far field pattern



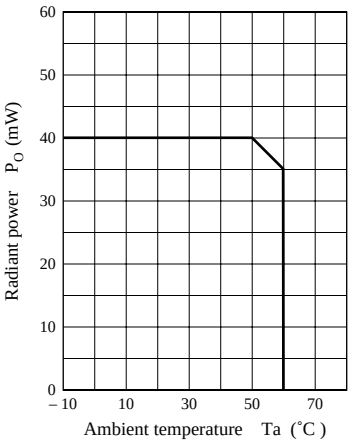
I_{th} — Ta



I_{OP} — Ta



P_O — Ta



I_d — Ta