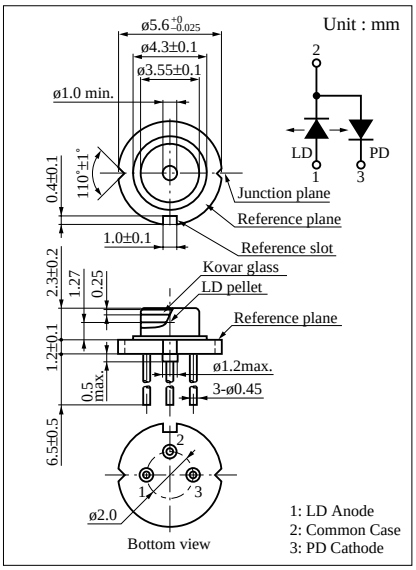
LNC707PS

High Power Output Semiconductor Laser



■ Overview

The LNC707PS is a near infrared GaAlAs laser diode which provides continuous oscillation in single mode and is stable at low operating current. LNC707PS uses a small package, and is capable of operating continuously at high temperatures with high output (60 mW). It can be used in a wide range of applications as a light source for optical disk memory and optical information devices. In particular, it can be used in making equipment portable due to its low current operations.

■ Features

- Low current operations : 70 mA (with 60 mW output)
- High power output : 60 mW
- Stable single horizontal mode oscillation
- Small size package

■ Absolute Maximum Ratings (Ta = 25˚C)

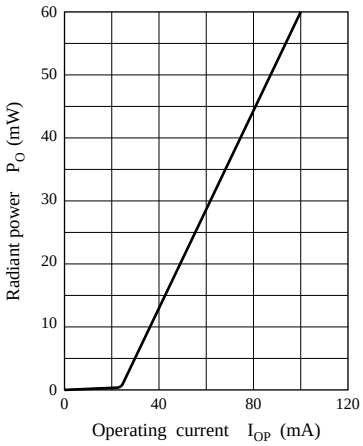
Parameter		Symbol	Ratings	Unit
Radiant power		P_O	60	mW
Reverse voltage	Laser	V_R	2	V
	PIN	V_R (PIN)	30	V
Power dissipation		P_d (PIN)	100	mW
Operating ambient temperature		T_{opr}	–10 to +60	˚C
Storage temperature		T_{stg}	– 40 to +80	˚C

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

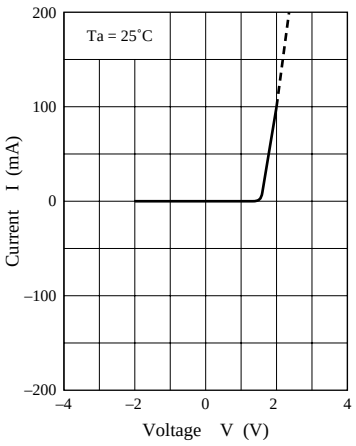
Parameter		Symbol	Conditions	min	typ	max	Unit
Threshold current		I_{th}	CW	15	25	35	mA
Operating current		I_{OP}	P_O = 60mW	70	100	130	mA
Operating voltage		V_{OP}	P_O = 60mW		2.0	2.5	V
Oscillation wavelength		λ_L	P_O = 60mW	778	784	790	nm
Radiation angle	Horizontal direction	$\theta_{//}$*	P_O = 60mW	7	10	13	deg.
	Vertical direction	$\theta_{\perp}$*	P_O = 60mW	17	21	25	deg.
Differential efficiency		η	P_O = 55mW/I(60mW – 5mW)	0.7	0.9	1.2	mW/mA
Reverse current (DC)		I_R	V_R (PIN) = 5V			0.1	µA
PIN photo current		I_P	P_O = 60mW, V_R (PIN) = 5V		0.2		mA
Optical axis accuracy	X direction	θ_X	P_O = 60mW	–2.0		+2.0	deg.
	Y direction	θ_Y	P_O = 50mW	–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)

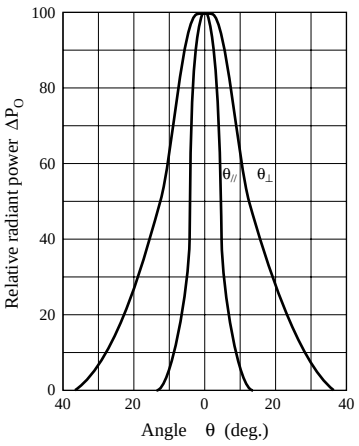
P_O — I_{OP}



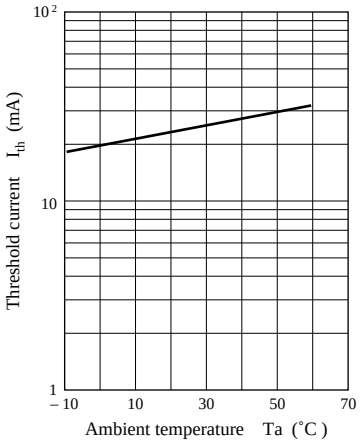
I — V



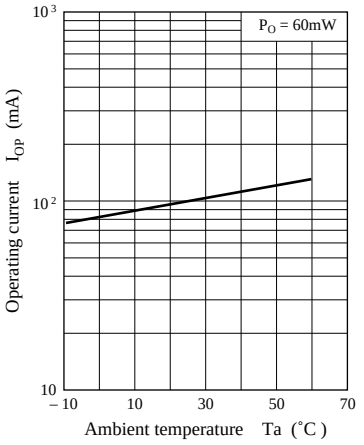
Far field pattern



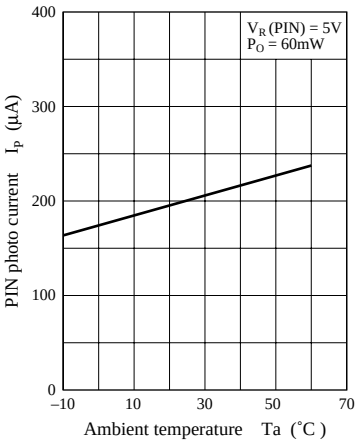
I_{th} — Ta



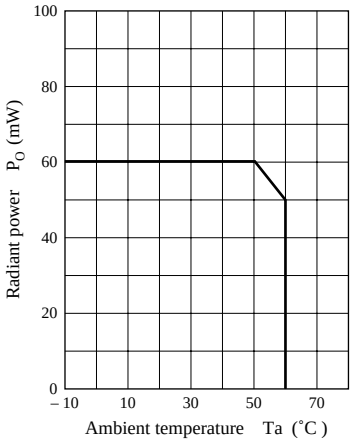
I_{OP} — Ta



I_P — Ta



P_O — Ta



I_d — Ta