

LNC705PS

GaAlAs Semiconductor Laser

Features

- Low threshold current
- Stable single horizontal mode oscillation
- Long lifetime, high reliability
- High optical power output : 50mW

Applications

- Optical data processing devices
- Optical disk memory
- Optical measuring equipment

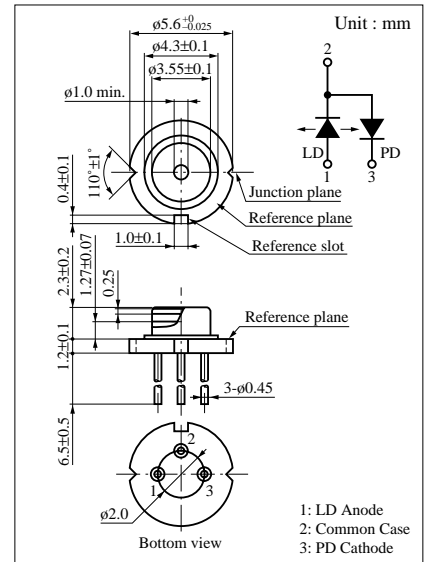
Absolute Maximum Ratings (Ta = 25°C)

Parameter		Symbol	Rated	Unit
Radiant power		P_O	50	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

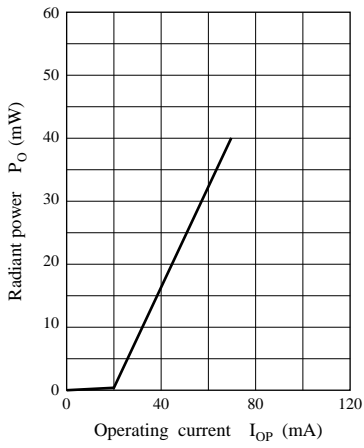
Electro-Optical Characteristics (Ta = 25°C)

Parameter		Symbol	Conditions	min	typ	max	Unit
Threshold current		I_{th}	CW	10	20	35	mA
Operating current		I_{OP}	CW $P_O = 40mW$	40	80	100	mA
Operating voltage		V_{OP}	CW $P_O = 40mW$		2.0	2.5	V
Oscillation wavelength		λ_L	CW $P_O = 40mW$	770	785	805	nm
Radiation angle	Horizontal direction	$\theta_{//}^{*1}$	CW $P_O = 40mW$	7	9	13	deg.
	Vertical direction	θ_{\perp}^{*1}	CW $P_O = 40mW$	20	25	30	deg.
Differential efficiency		η	CW $P_O = 36mW/I(40mW - 4mW)$	0.7	0.9	1.2	W/A
PIN photo current		I_P	CW $P_O = 40mW, V_R$ (PIN) = 5V		0.5		mA
Reverse current (DC)		I_R	V_R (PIN) = 15V			0.1	μA
Optical axis accuracy	X direction	θ_X	CW $P_O = 40mW$	-2.0		+2.0	deg.
	Y direction	θ_Y	CW $P_O = 40mW$	-3.0		+3.0	deg.

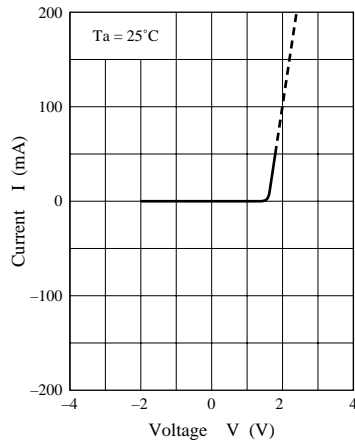
*1 The radiation angle is indicated as half full angles.



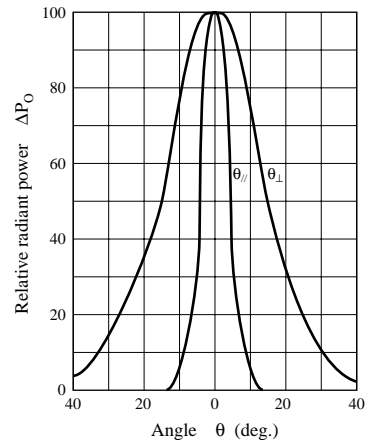
$P_O - I_{OP}$



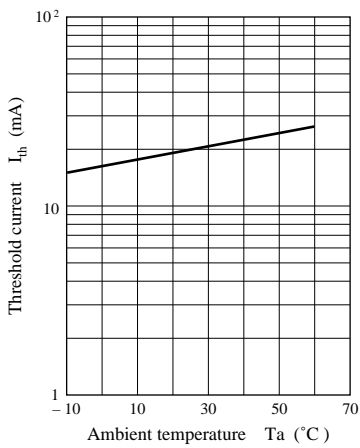
$I - V$



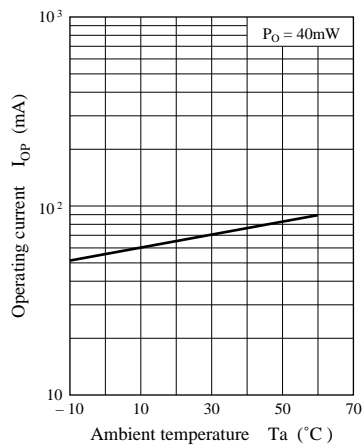
Far field pattern



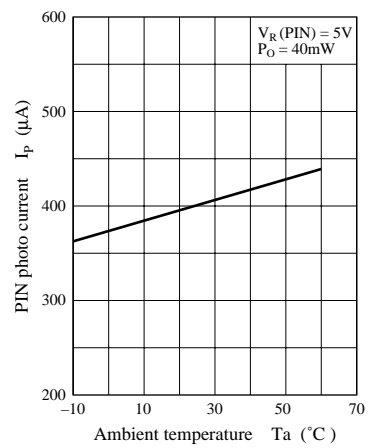
$I_{th} - T_a$



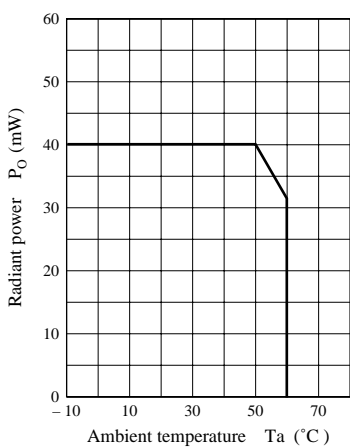
$I_{OP} - T_a$



$I_p - T_a$



$P_O - T_a$



$I_d - T_a$

