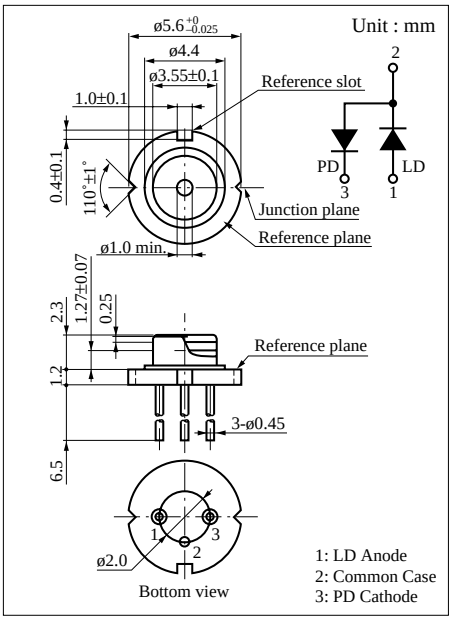
LNCQ03PS

Red Light Semiconductor Laser

For optical control systems



Features

- High output operations with oscillatins wavelength of 660nm : 35mw
- Low threshold current
- Stable single horizontal mode osillation
- Space saved by miniaturization
- Low astigmatic difference facilitates good concentrated light spot, production.

Applications

- DVD-Ram
- Pointer

Absolute Maximum Ratings (Ta = 25˚C)

Parameter		Symbol	Ratings	Unit
Radiant power		P_O	35	mW
Reverse voltage	Laser	V_R	1.5	V
	PIN	V_R (PIN)	30	V
Power dissipation		P_d (PIN)	60	mW
Operating ambient temperature		T_{opr}	–10 to +60	˚C
Storage temperature		T_{stg}	– 40 to +85	˚C

Electro-Optical Characteristics (Ta = 25˚C)

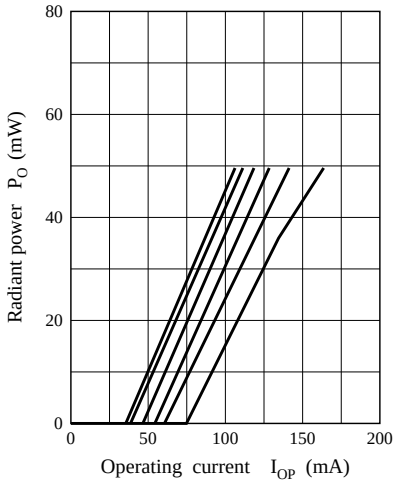
Parameter		Symbol	Conditions	min	typ	max	Unit
Threshold current		I_{th}	CW	20	50	70	mA
Operating current		I_{OP}	CW P_O = 30mW	50	95	120	mA
Operating voltage		V_{OP}	CW P_O = 30mW	2.0	2.5	3.0	V
Resistance between electrodes		R_S	CW P_O = 30mW	3.0	5.0	10	Ω
Oscillation wavelength		λ_L	CW P_O = 30mW	635	660	675	nm
Slope efficiency		SE	CW P_O = 30mW	0.5	0.7	1.1	W/A
Radiation angle	Horizontal direction	$\theta_{//}$	CW P_O = 30mW	7.5	8.5	10.5	deg.
	Vertical direction	$\theta_{\perp}$	CW P_O = 30mW	17	22	26.5	deg.
Optical axis accuracy	X direction	θ_X	CW P_O = 30mW	–2.0		+2.0	deg.
	Y direction	θ_Y	CW P_O = 4mW	–3.0		+3.0	deg.
Astigmatic difference		As*2	CW P_O = 4mW		5.0	10	µm

*1 $\theta_{//}$ and $\theta_{\perp}$ are the angles where the optical intencity is a half of its max. value.(half full angle)

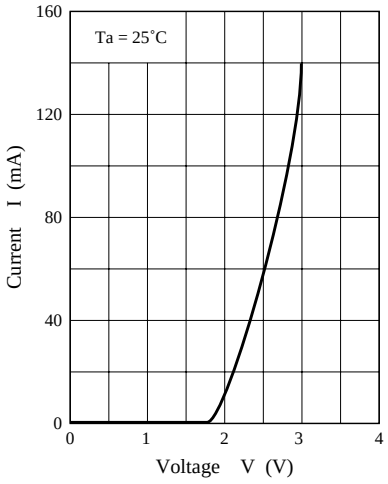
*2 Reference to package axis.

*3 Guaranteed value in design.

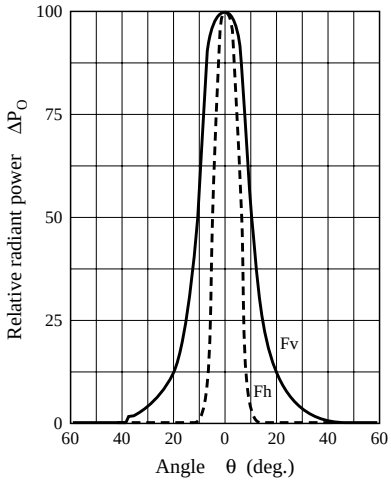
P_O — I_{OP}



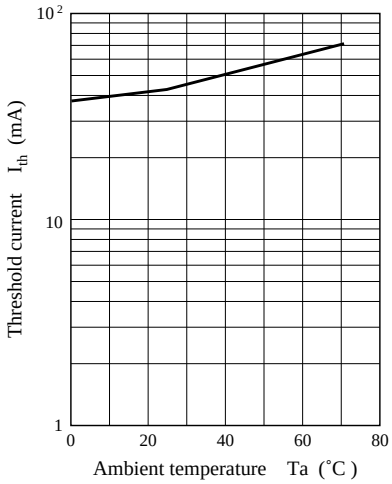
I — V



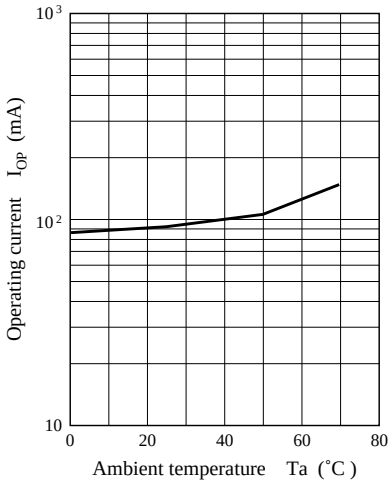
Far field pattern



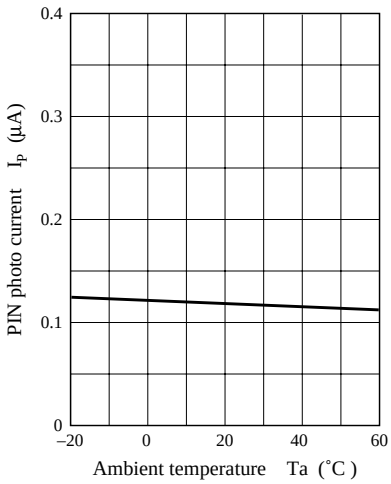
I_{th} — Ta



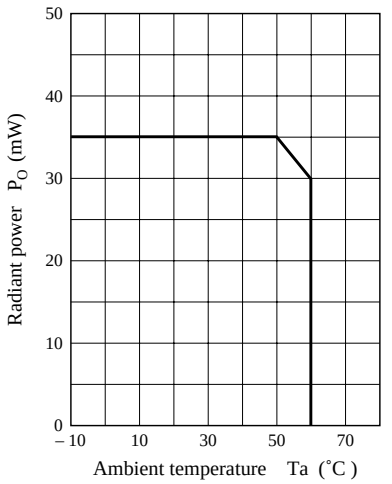
I_{OP} — Ta



I_P — Ta



P_O — Ta



I_d — Ta