

LNC703PS

Semiconductor Laser for LBP(Laser Beam Printers)

Overview

The LNC703PS is a near infrared GaAlAs laser diode which provides continuous oscillation in single mode and is stable at low operating current. This product is characterized by a low operating current and low drooping, making it suitable for a wide range of optical information equipment.

Features

- Low current operations : 40 mA (with 12 mW output)
- High output (15 mW) for increased printing speed
- Stable single horizontal mode oscillation
- Low astigmatic difference
- Low drooping

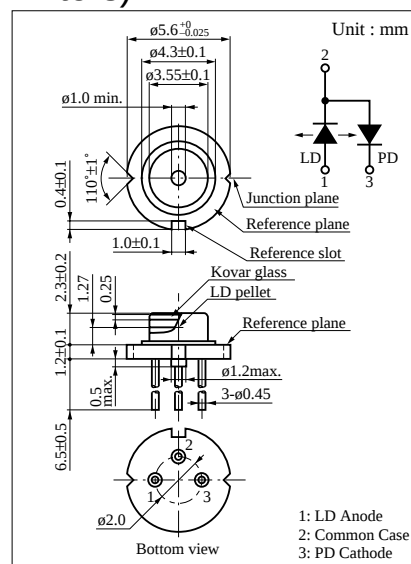
Absolute Maximum Ratings (Ta = 25°C)

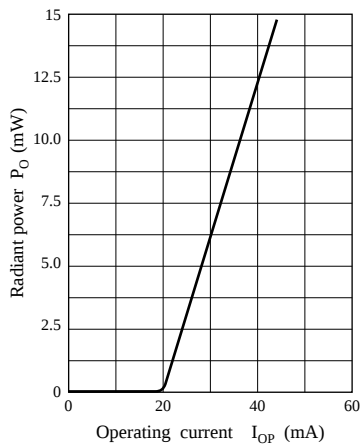
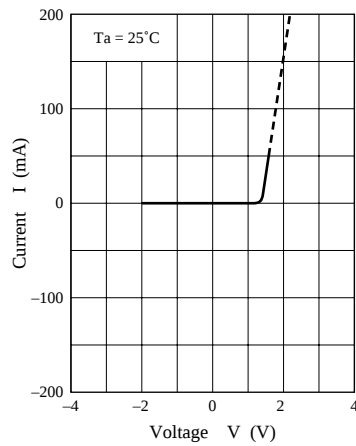
Parameter		Symbol	Ratings	Unit
Radiant power		P _O	15	mW
Reverse voltage	Laser	V _R	2	V
	PIN	V _R (PIN)	30	V
Power dissipation		P _d (PIN)	100	mW
Operating ambient temperature		T _{opr}	−10 to +60	°C
Storage temperature		T _{stg}	−40 to +80	°C

Electro-Optical Characteristics (Ta = 25°C)

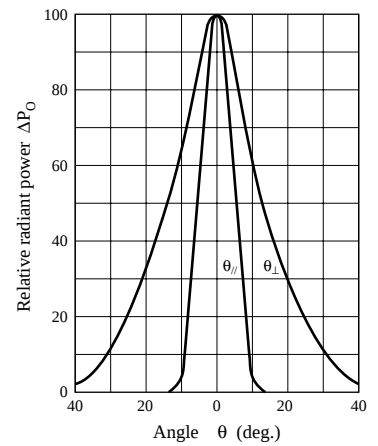
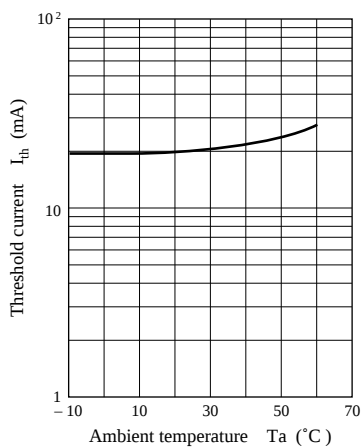
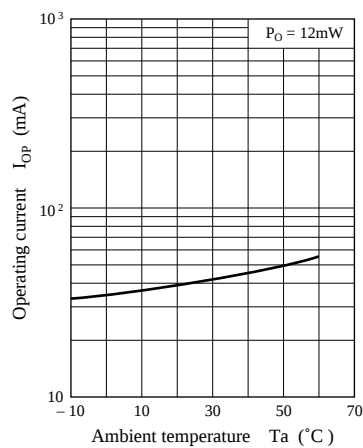
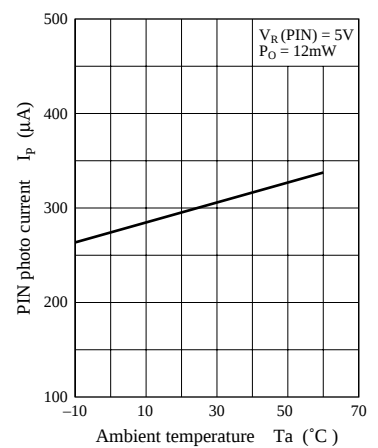
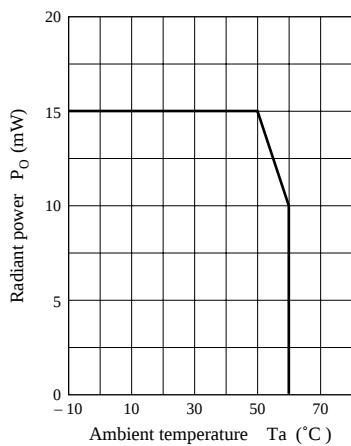
Parameter		Symbol	Conditions	min	typ	max	Unit
Threshold current		I _{th}	CW	10	20	35	mA
Operating current		I _{OP}	P _O = 12mW	30	40	70	mA
Operating voltage		V _{OP}	P _O = 12mW		2.0	2.5	V
Oscillation wavelength		λ _L	P _O = 12mW	775	785	795	nm
Radiation angle	Horizontal direction	θ _∥ *	P _O = 12mW	7	10	12	deg.
	Vertical direction	θ _⊥ *	P _O = 12mW	18	25	32	deg.
Differential efficiency		η	P _O = 9mW/I(12mW) − I(3mW)	0.4	0.7	1.0	mW/mA
Reverse current (DC)		I _R	V _R (PIN) = 5V			0.1	μA
PIN photo current		I _p	P _O = 12mW, V _R (PIN) = 5V		0.3		mA
Optical axis accuracy	X direction	θ _X	P _O = 12mW	−2.0		+2.0	deg.
	Y direction	θ _Y	P _O = 12mW	−3.0		+3.0	deg.
Droop		D _r	P _O = 12mW, f = 600Hz, duty 10% to 90%		4	10	%
Oscillation mode		Single horizontal mode					

* θ_∥ and θ_⊥ are the angles where the optical intensity is a half of its max. value. (half full angle)



$P_O - I_{OP}$  $I - V$ 

Far field pattern

 $I_{th} - T_a$  $I_{OP} - T_a$  $I_p - T_a$  $P_O - T_a$  $I_d - T_a$ 