

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}	$P_O = 12\text{mW}$	30	40	70	mA	
Operating voltage	V_{OP}	$P_O = 12\text{mW}$		2.0	2.5	V	
Oscillation wavelength	λ_L	$P_O = 12\text{mW}$	775	785	795	nm	
Radiation angle	Horizontal direction	$\theta_{//}^*$	$P_O = 12\text{mW}$	7	10	12	deg.
	Vertical direction	θ_{\perp}^*	$P_O = 12\text{mW}$	18	25	32	deg.
Differential efficiency	η	$P_O = 9\text{mW}/I(12\text{mW}) - I(3\text{mW})$	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	$P_O = 12\text{mW}$, V_R (PIN) = 5V		0.3		mA	
Optical axis accuracy	X direction	θ_X	$P_O = 12\text{mW}$	-2.0		+2.0	deg.
	Y direction	θ_Y	$P_O = 12\text{mW}$	-3.0		+3.0	deg.
Droop	D_r	$P_O = 12\text{mW}$, $f = 600\text{Hz}$, duty 10% to 90%		4	10	%	
Oscillation mode	Single horizontal mode						

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



