

# LNC703PS

Semiconductor Laser for LBP(Laser Beam Printers)

## ■ Overview

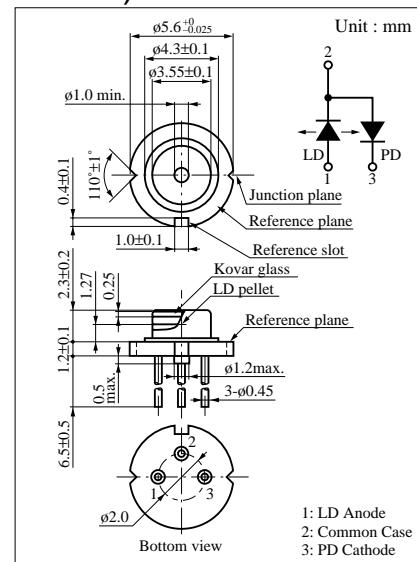
The LNC703PS is a near infrared GaAlAs laser diode which provides continuous oscillation in single mode and is stable at low operating current. This product is characterized by a low operating current and low drooping, making it suitable for a wide range of optical information equipment.

## ■ 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 ( $T_a = 25^\circ\text{C}$ )

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 ( $T_a = 25^\circ\text{C}$ )

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	$\lambda_L$	$P_O = 12\text{mW}$	775	785	795	nm
Radiation angle	Horizontal direction $\theta_{//}^*$	$P_O = 12\text{mW}$	7	10	12	deg.
	Vertical direction $\theta_{\perp}^*$	$P_O = 12\text{mW}$	18	25	32	deg.
Differential efficiency	$\eta$	$P_O = 9\text{mW}/I(12\text{mW}) - I(3\text{mW})$	0.4	0.7	1.0	mW/mA
Reverse current (DC)	$I_R$	$V_R$ (PIN) = 5V			0.1	$\mu\text{A}$
PIN photo current	$I_P$	$P_O = 12\text{mW}, V_R$ (PIN) = 5V		0.3		mA
Optical axis accuracy	X direction $\theta_X$	$P_O = 12\text{mW}$	-2.0		+2.0	deg.
	Y direction $\theta_Y$	$P_O = 12\text{mW}$	-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  $\theta_{\perp}$  are the angles where the optical intensity is a half of its max. value. ( half full angle )

