

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 | Rated | 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)



