

# LN9707, LN9707P

## Medium Power Laser Diodes

### ■ Outline

LN9707 and LN9707P are visible GaAlAs laser diode featuring stable single continuous oscillation of transverse mode in room temperature. Two polarities are available used for medium power and possible to operate continuously in high temperature. APC operation (Automatic Power Control) is enabled due to built-in PIN photodiode used for light power monitor. They can be widely applied for the light source of laser beam printer, facsimile, optical disc memory drive and optical communication apparatus.

### ■ Features

- Low threshold current
- Stable single transverse mode oscillation
- With monitor PIN photodiode for radiant output control
- Radiant can be continuously varied up to 7mW
- Direct modulation available
- Visible oscillation wavelength
- Long lifetime, high reliability

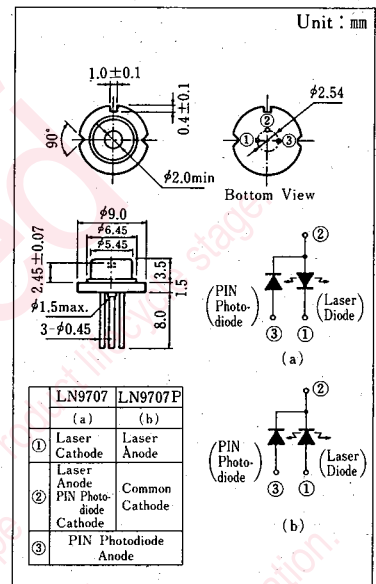
### ■ Absolute Maximum Ratings (Ta=25°C)

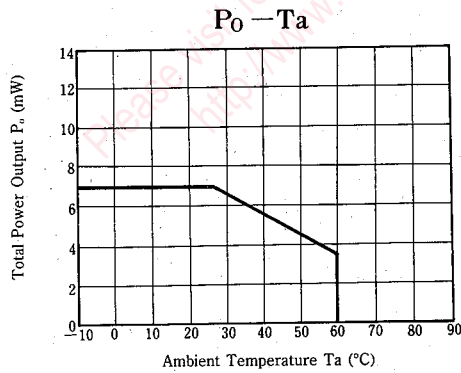
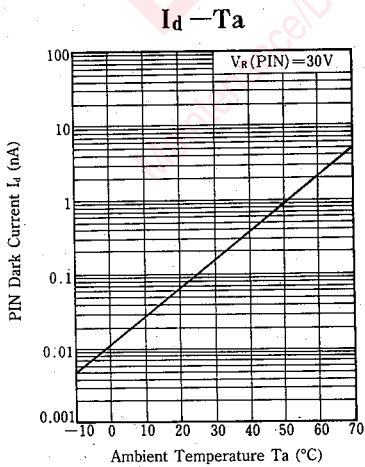
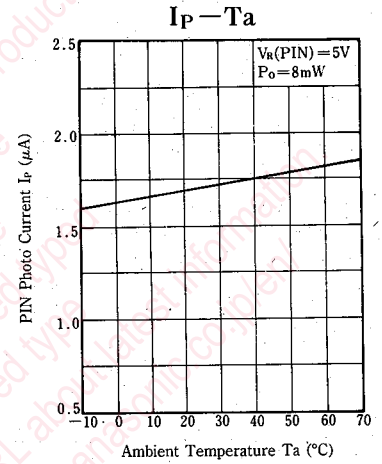
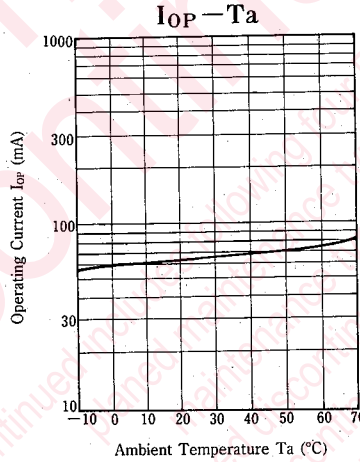
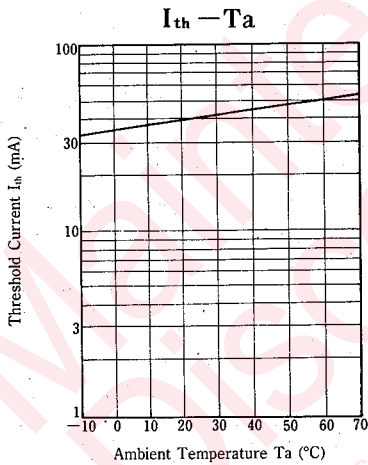
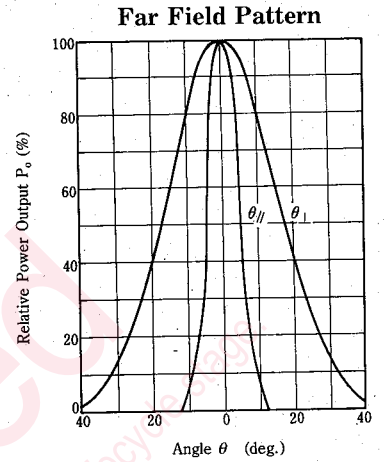
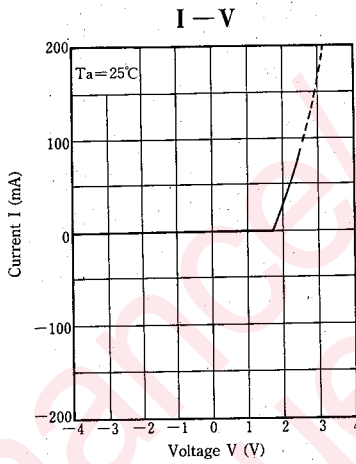
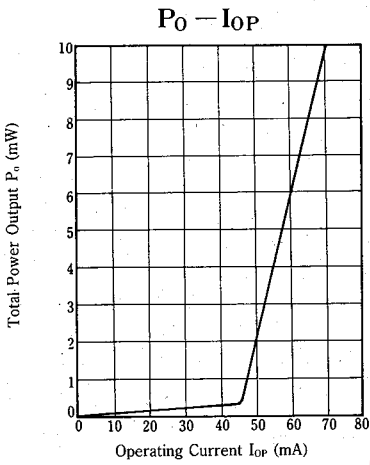
Item	Symbol	Value	Unit
Optical Power Output	P <sub>O</sub>	7	mW
Reverse Current	Laser	V <sub>R</sub>	V
	PIN	V <sub>R</sub> (PIN)	30
Power Dissipation	P <sub>d</sub> (PIN)	60	mW
Operating Temperature	T <sub>opr</sub>	-10~+60	°C
Storage Temperature	T <sub>stg</sub>	-40~+85	°C

### ■ Electro-Optical Characteristics (Ta=25°C)

Item	Symbol	Condition	min.	typ.	max.	Unit
Threshold Current	I <sub>th</sub>	CW	20	40	65	mA
Operating Current	I <sub>OP</sub>	P <sub>O</sub> =5mW	30	50	75	mA
Operating Voltage	V <sub>OP</sub>	P <sub>O</sub> =5mW		2	2.5	V
Wavelength	λ <sub>L</sub>	P <sub>O</sub> =5mW	780	788	795	nm
Radiation Half Angle	Horizontal Direction	θ <sub>∥</sub> *	8	10	16	deg.
	Vertical Direction	θ <sub>⊥</sub> *	20	35	45	deg.
Differential Efficiency	η	4mW/I(6mW)-I(2mW)	0.1	0.45	0.8	mW/m
PIN Dark Current	I <sub>d</sub>	V <sub>R</sub> (PIN)=30V			0.1	μA
PIN Photo Current	I <sub>P</sub>	P <sub>O</sub> =5mW, V <sub>R</sub> (PIN)=5V	0.3	1.0	1.7	mA
Emission Point Angle Accuracy	X Direction	θ <sub>X</sub>			±2	deg.
	Y Direction	θ <sub>Y</sub>			±3	deg.
Oscillation Mode	Single transverse mode					

\* θ<sub>∥</sub> and θ<sub>⊥</sub> are measured from the optical axis to the half power point.





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