

# LN9710, LN9710P

## Medium Power Laser Diodes

### ■ Outline

LN9710 and LN9710P are visible GaAlAs laser diodes enabling stable single continuous oscillation of transverse mode in room temperature. Two polarities are available for medium power and possible to operate continuously in high temperature. APC (Automatic Power Control) operation is enabled due to built-in PIN photodiode used for light power monitor. They can be widely applied for 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 10mW
- Direct modulation available
- Visible oscillation wavelength
- Long lifetime, high reliability

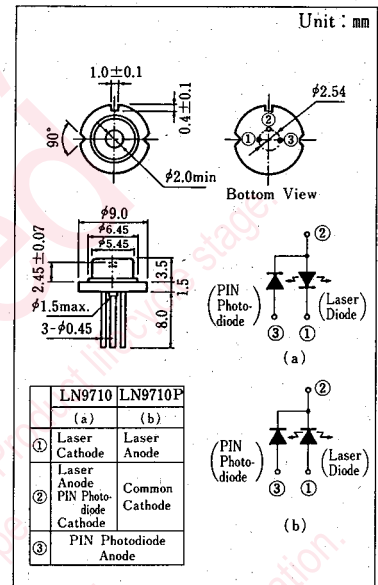
### ■ Absolute Maximum Ratings (Ta=25°C)

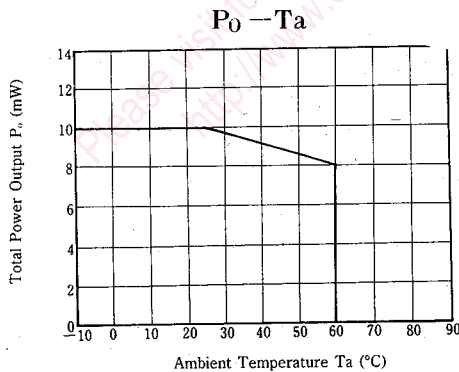
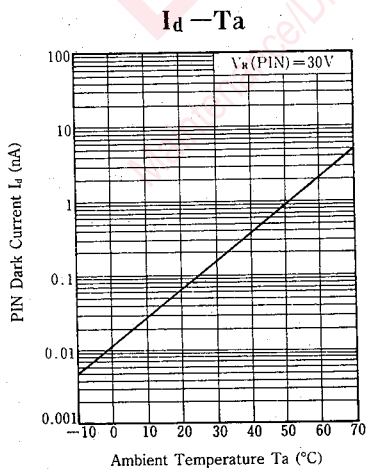
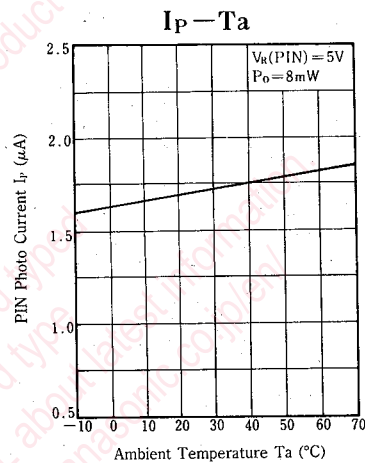
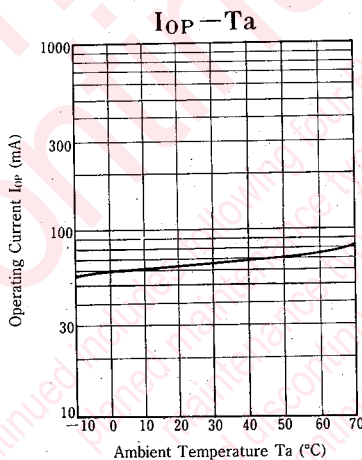
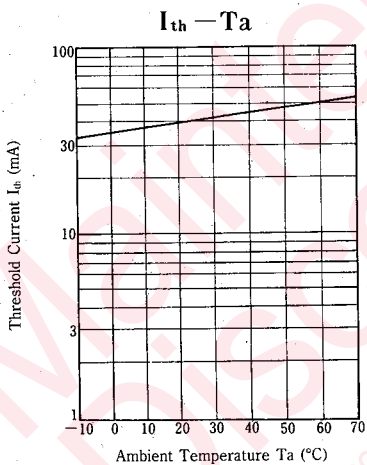
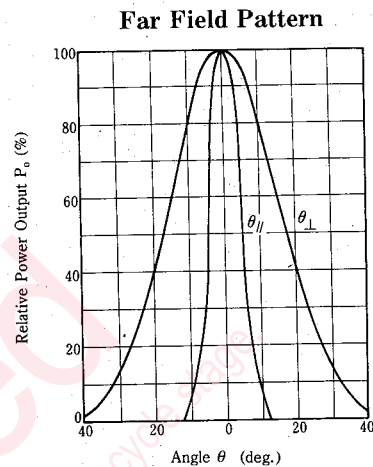
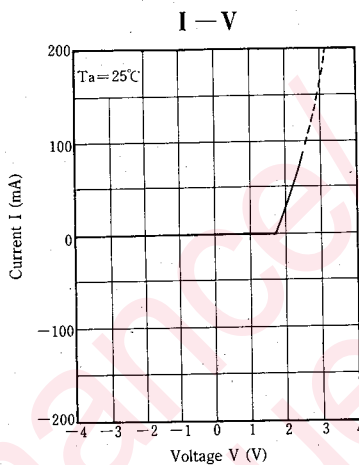
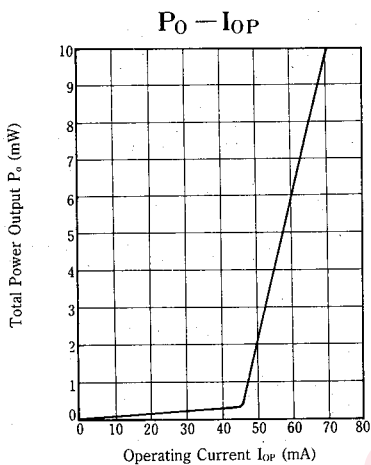
Item	Symbol	Value	Unit
Optical Power Output	$P_o$	10	mW
Reverse Voltage	Laser $V_R$	2	V
	PIN $V_R$ (PIN)	30	V
Power Dissipation	$P_d$ (PIN)	60	mW
Operating Temperature	$T_{opr}$	-10~+60	°C
Storage Temperature	$T_{stg}$	-40~+85	°C

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

Item	Symbol	Condition	min.	typ.	max.	Unit
Threshold Current	$I_{th}$	CW	25	45	70	mA
Operating Current	$I_{OP}$	$P_o = 8mW$	45	65	90	mA
Operating Voltage	$V_{OP}$	$P_o = 8mW$		2	3	V
Wavelength	$\lambda_L$	$P_o = 8mW$	775	790	810	nm
Radiation Half Angle	Horizontal Direction $\theta_H$ *	$P_o = 8mW$	9	10	16	deg
	Vertical Direction $\theta_V$ *	$P_o = 8mW$	22	35	48	deg
Differential Efficiency	$\eta$	$7mW / (I_{(8mW)} - I_{(6mW)})$	0.1	0.45	0.8	mW/mA
PIN Dark Current	$I_d$	$V_R$ (PIN) = 30V			0.1	$\mu A$
PIN Photo Current	$I_P$	$P_o = 8mW, V_R$ (PIN) = 5V	0.5	1.6	2.7	mA
Emission Point Angle Accuracy	X Direction $\theta_X$	$P_o = 8mW$			$\pm 2$	deg.
	Y Direction $\theta_Y$	$P_o = 8mW$			$\pm 3$	deg.
Oscillation Mode	Single transverse mode					

\*  $\theta_H$  and  $\theta_V$  are measured from the optical axis to the half power point.





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