

# LNA4401L

## GaAlAs Infrared Light Emitting Diode

For optical control systems

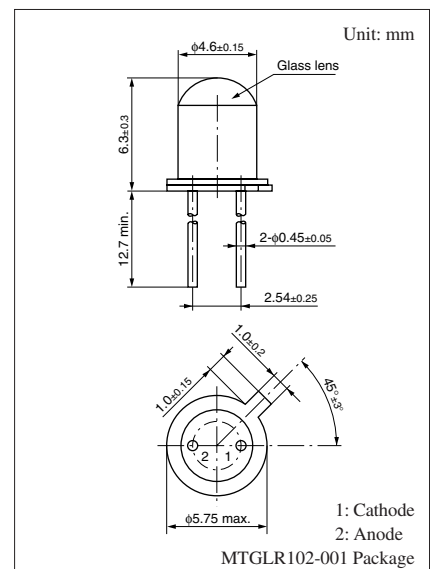
### ■ Features

- High-power output, high-efficiency:  $P_O = 10$  mW (typ.)
- Fast response and high-speed modulation capability:  
 $f_C = 20$  MHz (typ.)
- TO-18 standard type package

### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Reverse voltage	$V_R$	3	V
Forward current	$I_F$	100	mA
Pulse forward current *	$I_{FP}$	1	A
Power dissipation	$P_D$	190	mW
Operating ambient temperature	$T_{opr}$	-25 to +85	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-30 to +100	$^\circ\text{C}$

Note) \*:  $f = 100$  Hz, Duty Cycle = 0.1%



### ■ Electrical-Optical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

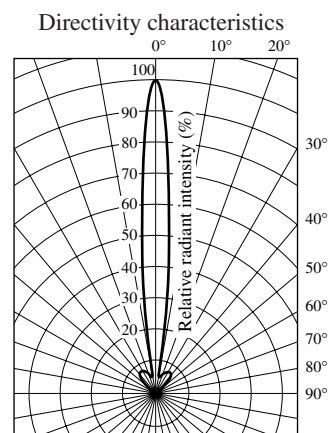
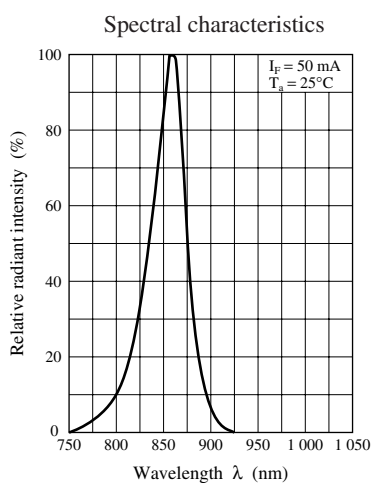
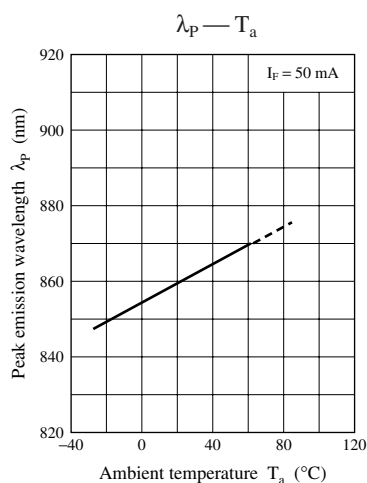
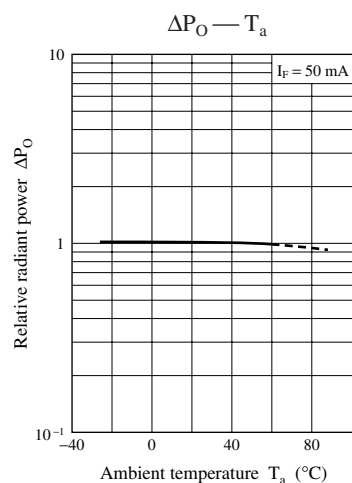
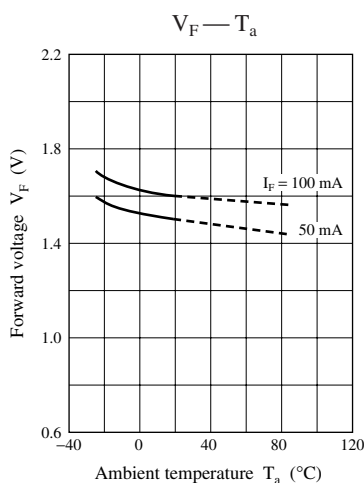
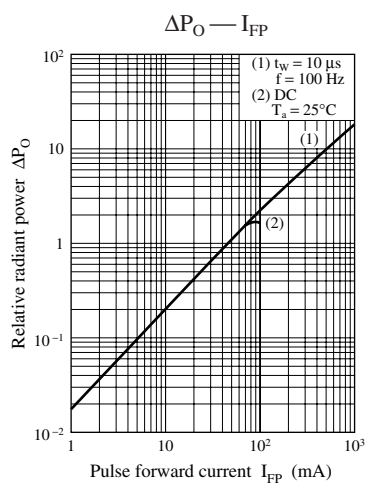
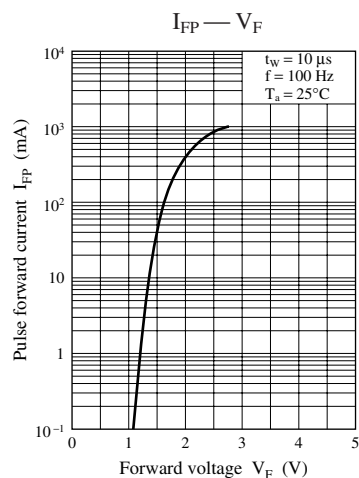
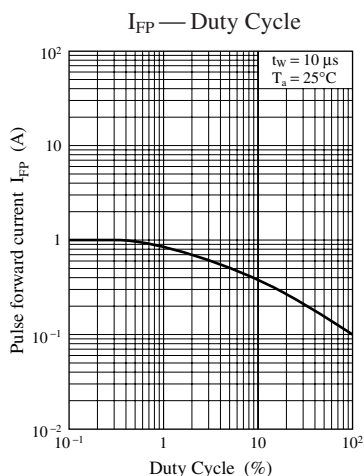
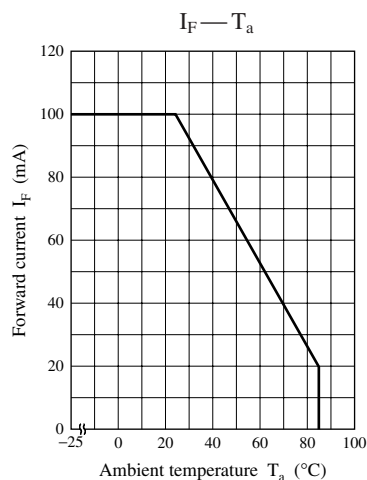
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Forward voltage	$V_F$	$I_F = 100$ mA		1.6	1.9	V
Reverse current	$I_R$	$V_R = 3$ V			10	$\mu\text{A}$
Radiant power	$P_O$	$I_F = 50$ mA	6	10		mW
Peak emission wavelength	$\lambda_P$	$I_F = 50$ mA		860		nm
Spectral half band width	$\Delta\lambda$	$I_F = 50$ mA		40		nm
Half-power angle	$\theta$	The angle when the radiant power is halved		6		$^\circ$
Cutoff frequency *	$f_C$	$I_{FP} = 50$ mA + 10 mA[p-p]		20		MHz

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7031 measuring methods for diodes.

2. \*: Modulation total power output 3 dB frequency to fall from 1 MHz.

Cutoff frequency:

$$f_C: 10 \times \log \frac{P_O \text{ at } f = f_C}{P_O \text{ at } f = 1 \text{ MHz}} = -3$$



# Caution for Safety

 **DANGER**

## ■ This product contains Gallium Arsenide (GaAs).

GaAs powder and vapor are hazardous to human health if inhaled or ingested. Do not burn, destroy, cut, cleave off, or chemically dissolve the product. Follow related laws and ordinances for disposal. The product should be excluded from general industrial waste or household garbage.

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