

LNA4401L

GaAlAs Infrared Light Emitting Diode

For optical control systems

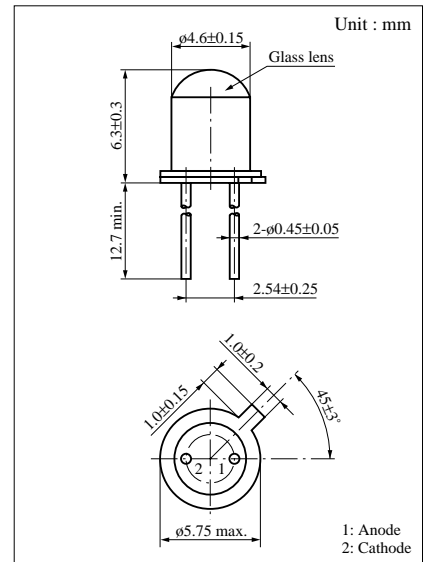
■ Features

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

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

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

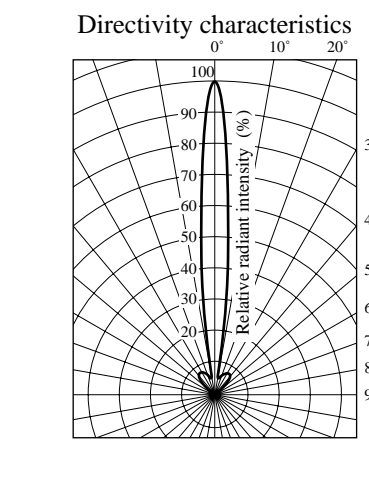
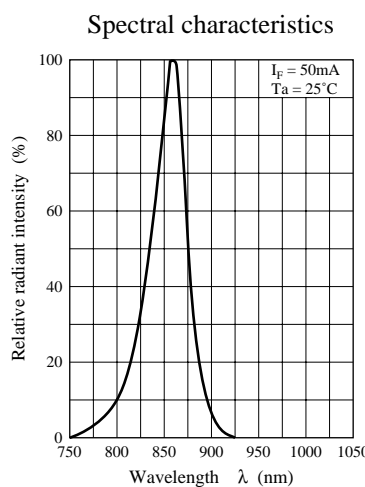
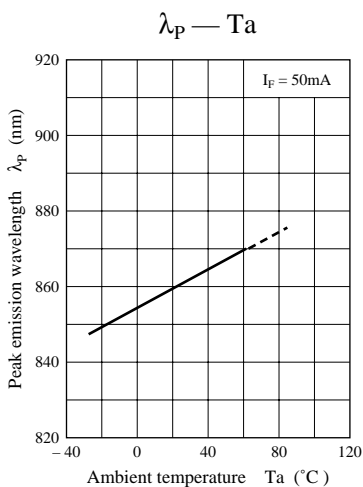
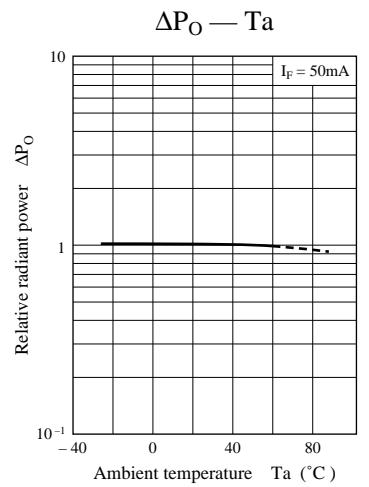
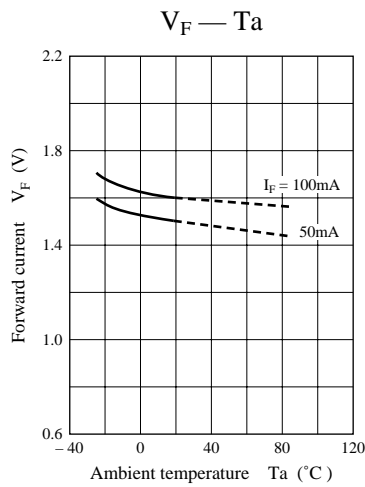
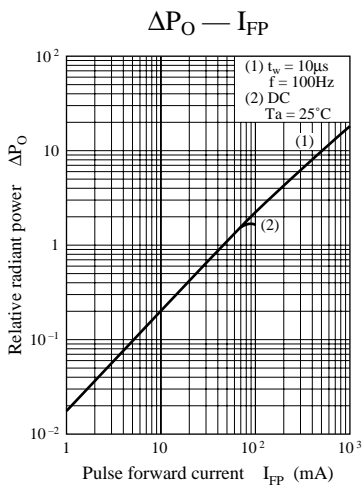
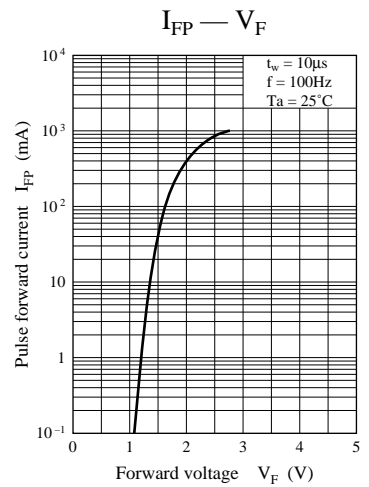
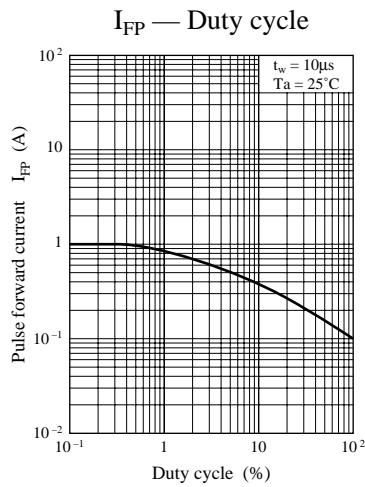
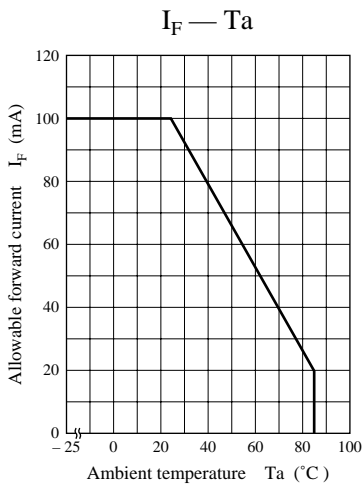
* $f = 100 \text{ Hz}$, Duty cycle = 0.1 %



■ Electro-Optical Characteristics ($T_a = 25^\circ\text{C}$)

| Parameter | Symbol | Conditions | min | typ | max | Unit |
|--------------------------|-----------------|--|-----|-----|-----|---------------|
| Radiant power | P_O | $I_F = 50 \text{ mA}$ | 6 | 10 | | mW |
| Peak emission wavelength | λ_P | $I_F = 50 \text{ mA}$ | | 860 | | nm |
| Spectral half band width | $\Delta\lambda$ | $I_F = 50 \text{ mA}$ | | 40 | | nm |
| Forward voltage (DC) | V_F | $I_F = 100 \text{ mA}$ | | 1.6 | 1.9 | V |
| Reverse current (DC) | I_R | $V_R = 3 \text{ V}$ | | | 10 | μA |
| Capacitance between pins | C_t | $V_R = 0 \text{ V}$, $f = 1 \text{ MHz}$ | | | | pF |
| Half-power angle | θ | The angle in which radiant intensity is 50% | | 6 | | deg. |
| Cutoff frequency | f_C^* | $I_{FP} = 50 \text{ mA} + 10 \text{ mA}_{p-p}$ | | 20 | | MHz |

* Frequency when modulation optical power decreases by 3dB from 1MHz. $\left(10 \log \frac{P_O(f_C \text{ MHz})}{P_O(1 \text{ MHz})} = -3\right)$



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 **DANGER**

Gallium arsenide material (GaAs) is used in this product.

Therefore, do not burn, destroy, cut, crush, or chemically decompose the product, since gallium arsenide material in powder or vapor form is harmful to human health.

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