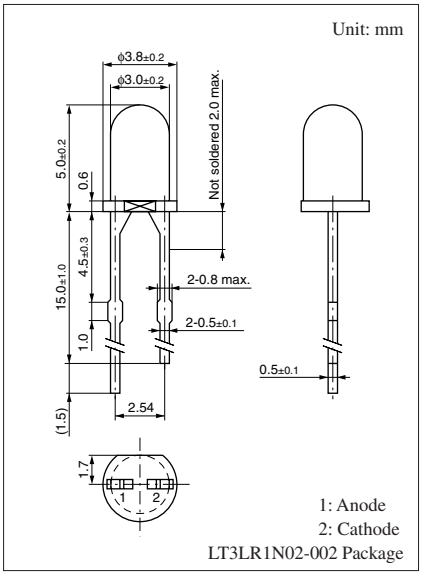
LNA4801L

GaAlAs Infrared Light Emitting Diode

For optical control systems



■ Features

- Fast response and high-speed modulation capability: f_C = 20 MHz (typ.)
- Wide directivity: θ = 22° (typ.)
- Transparent epoxy resin package

■ Absolute Maximum Ratings T_a = 25°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	°C
Storage temperature	T_{stg}	−30 to +100	°C

Note) ∗: f = 100 Hz, Duty Cycle = 0.1%

■ Electrical-Optical Characteristics T_a = 25°C ± 3°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	μA
Center radiant intensity	I_e	I_F = 50 mA	12		48	mW/sr
Peak emission wavelength *	λ_P	I_F = 50 mA		860		nm
Spectral half band width *	Δλ	I_F = 50 mA		40		nm
Half-power angle	θ	The angle when the radiant power is halved		22		°

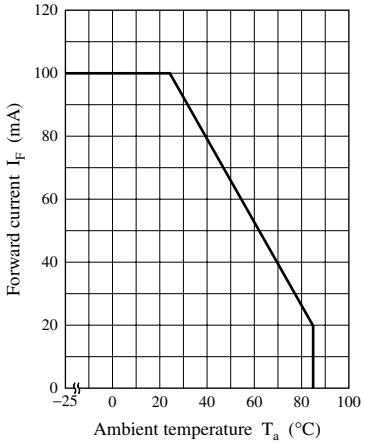
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7031 measuring methods for diodes.

2. Modulation total power output 3 dB frequency to fall from 1 MHz.
Cutoff frequency: 20 MHz

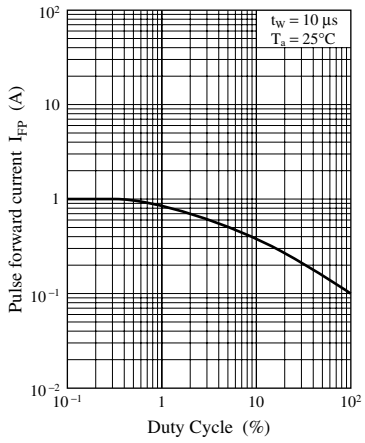
$$f_C: 10 \times \log \frac{P_O \text{ at } f = f_C}{P_O \text{ at } f = 1 \text{ MHz}} = -3$$

3. ∗: LED might radiate red light under large current drive.

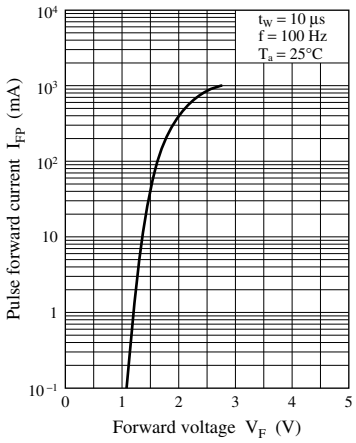
I_F — T_a



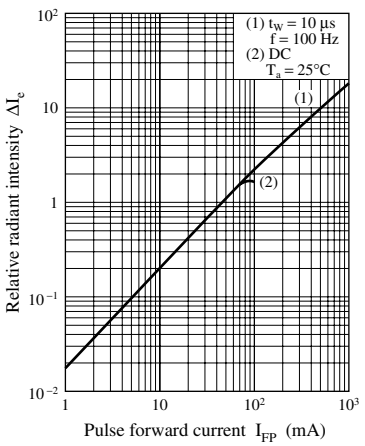
I_{FP} — Duty Cycle



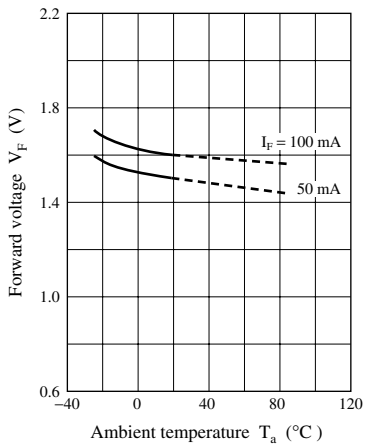
I_{FP} — V_F



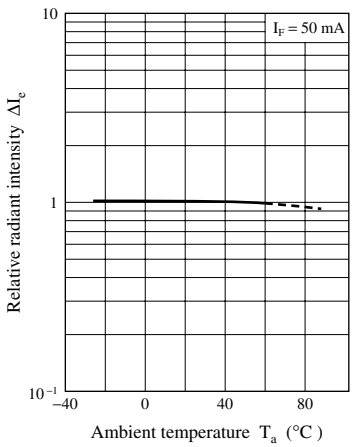
ΔI_e — I_{FP}



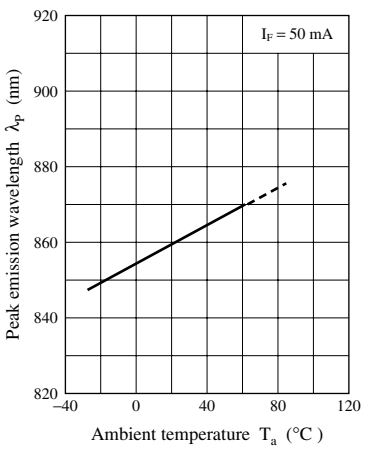
V_F — T_a



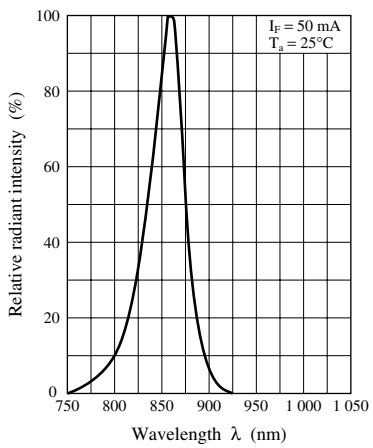
ΔI_e — T_a



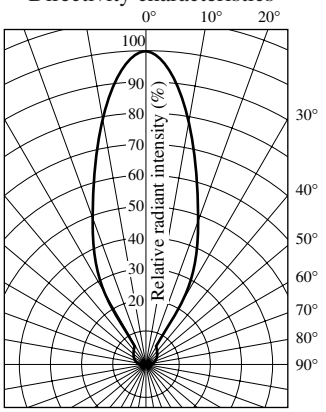
λ_P — T_a



Spectral characteristics



Directivity characteristics



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⚠ DANGER

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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 form general industrial waste or household garbage.

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