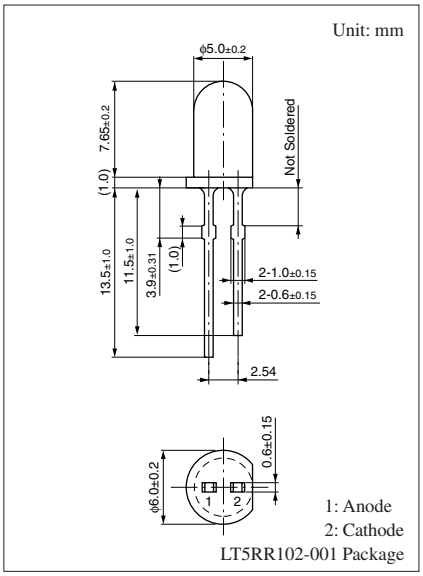
LNA2904L (LN166)

GaAs Infrared Light Emitting Diode

For optical control systems



■ Features

- High-power output, high-efficiency: I_e = 10 mW/sr (min.)
- Emitted light spectrum suited for silicon photodetectors
- Good radiant power output linearity with respect to input current
- High center radiant intensity
- 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}	1.5	A
Power dissipation	P_D	160	mW
Operating ambient temperature	T_{opr}	−25 to +85	°C
Storage temperature	T_{stg}	−40 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		1.35	1.60	V
Pulse forward voltage *1	V_{FP}	I_{FP} = 1.0 A		2.5	3.4	V
Reverse current	I_R	V_R = 3 V			10	μA
Center radiant intensity *2	I_e	I_F = 50 mA	10.0			mW/sr
Peak emission wavelength	λ_P	I_F = 50 mA		950		nm
Spectral half band width	$\Delta\lambda$	I_F = 50 mA		50		nm
Terminal capacitance	C_t	V_R = 0 V, f = 1 MHz		50		pF
Half-power angle	θ	The angle when the radiant power is halved		20		°

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

2. Cutoff frequency: 1 MHz

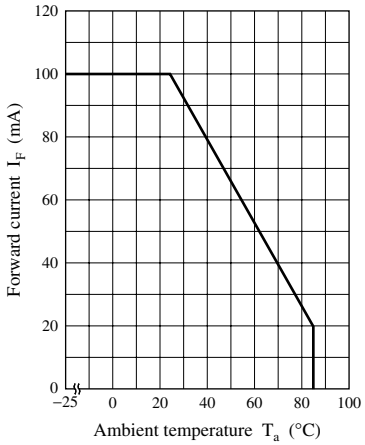
$$f_C: 10 \times \log \frac{P_O \text{ at } f = f_C}{P_O \text{ at } f = 50 \text{ kHz}} = -3$$

3. ∗1: f = 100 Hz, Duty Cycle = 0.1%

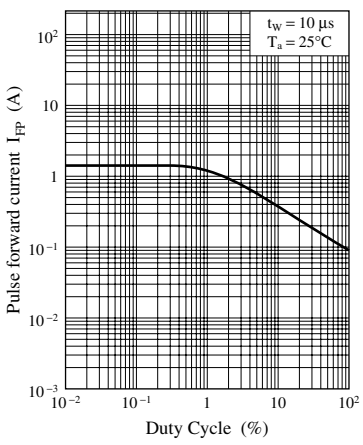
∗2: Rank classification

Rank	No-rank	T	U
I_e (mW/sr)	> 10.0	10.0 to 14.0	> 12.0

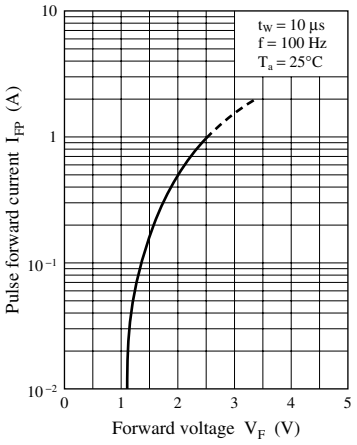
I_F — T_a



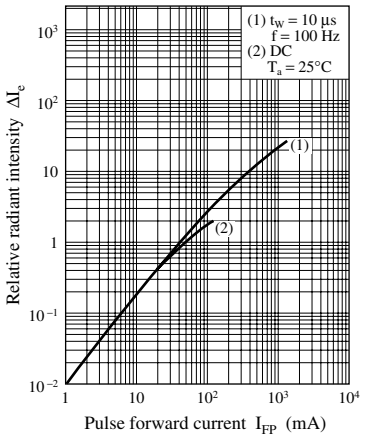
I_{FP} — Duty Cycle



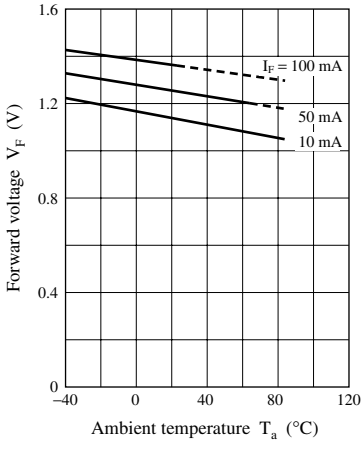
I_{FP} — V_F



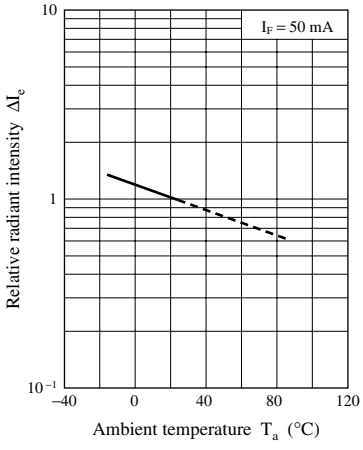
ΔI_e — I_{FP}



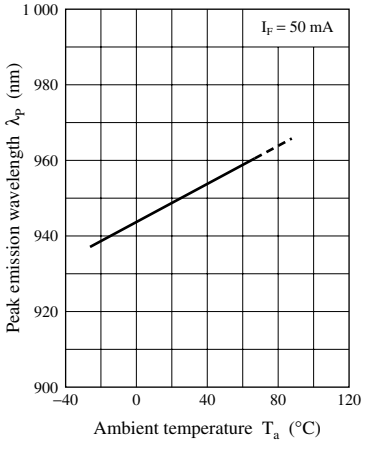
V_F — T_a



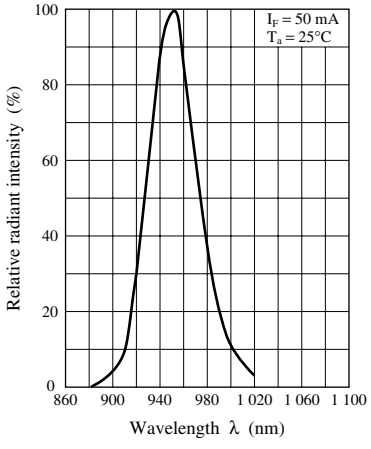
ΔI_e — T_a



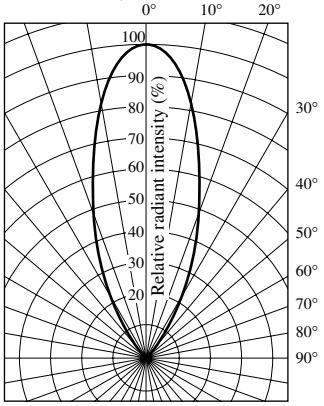
λ_P — T_a



Spectral characteristics



Directivity characteristics



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⚠ DANGER

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