LNA2902L (LN66A(L))

GaAs Infrared Light Emitting Diode

For optical control systems

■ Features

- High-power output, high-efficiency: I_e = 9 mW/sr (min.)
- Emitted light spectrum suited for silicon photodetectors
- Good radiant power output linearity with respect to input current
- Wide directivity: θ = 20° (typ.)
- Transparent epoxy resin package
- Long lead wire type

■ Absolute Maximum Ratings T_a = 25°C

Parameter	Symbol	Rating	Unit
Power dissipation	P_D	160	mW
Forward current	I_F	100	mA
Pulse forward current *	I_{FP}	1.5	A
Reverse voltage	V_R	3	V
Operating ambient temperature	T_{opr}	–25 to +85	°C
Storage temperature	T_{stg}	–40 to +100	°C

Note) *: f = 100 Hz, Duty cycle = less than 0.1%

■ Electrical-Optical Characteristics T_a = 25°C±3°C

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Radiant power	P_O	I_F = 50 mA		12.0		mW
Reverse current	I_R	V_R = 3 V			10	μA
Forward voltage	V_F	I_F = 100 mA		1.4	1.6	V
Pulse forward voltage *	V_{FP}	I_{FP} = 1.0 A			3.0	V
Center radiant intensity	I_e	I_F = 50 mA	9.0			mW/sr
Terminal capacitance	C_t	V_R = 0 V, f = 1 MHz		35		pF
Peak emission wavelength	λ_P	I_F = 50 mA		950		nm
Spectral half band width	Δλ	I_F = 50 mA		50		nm
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.

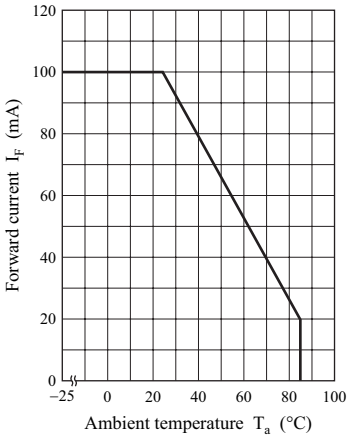
2. Cutoff frequency: 1 MHz

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

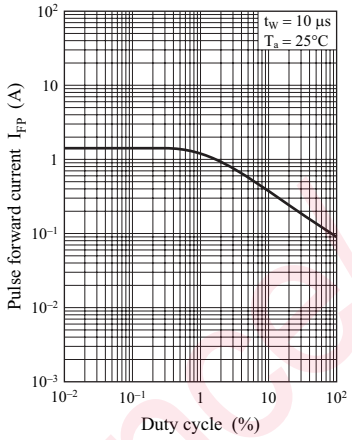
3. *: f = 100 Hz, Duty cycle = less than 0.1%

Note) The part number in the parenthesis shows conventional part number.

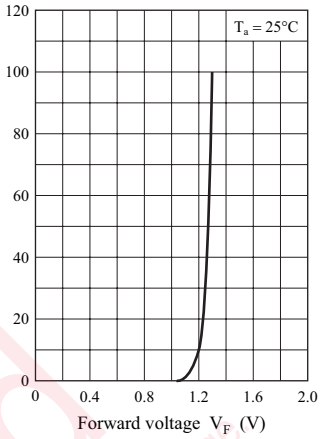
I_F — T_a



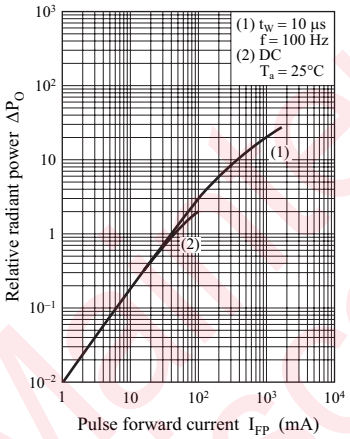
I_{FP} — Duty cycle



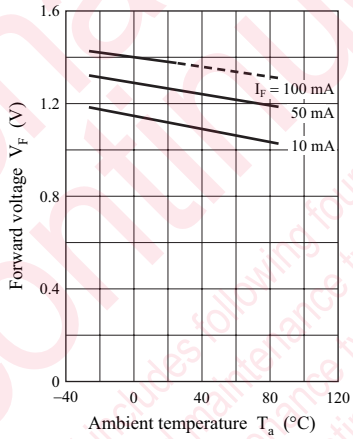
I_F — V_F



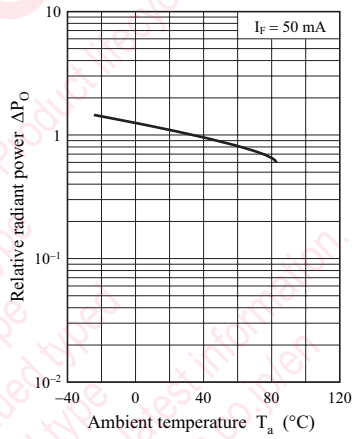
ΔP_O — I_{FP}



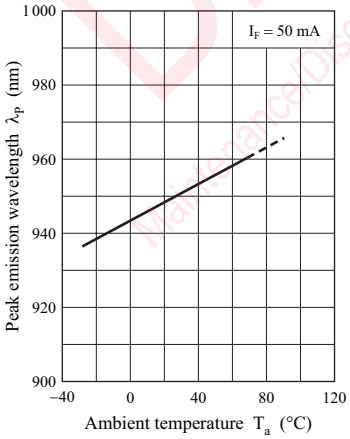
V_F — T_a



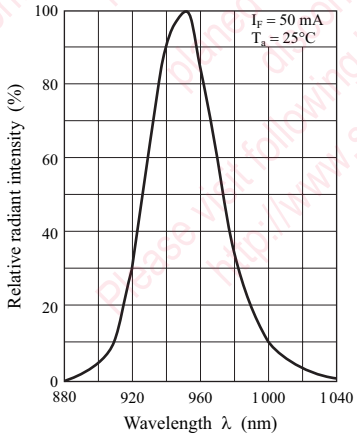
ΔP_O — T_a



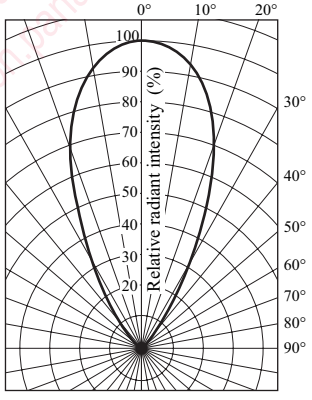
λ_P — T_a



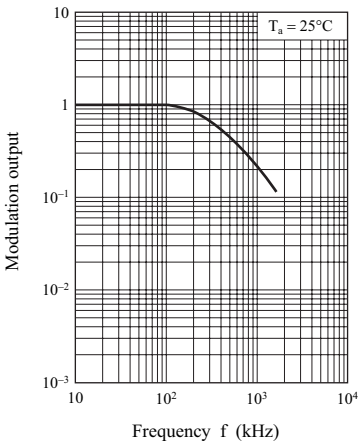
Relative radiant intensity — λ



Directive characteristics

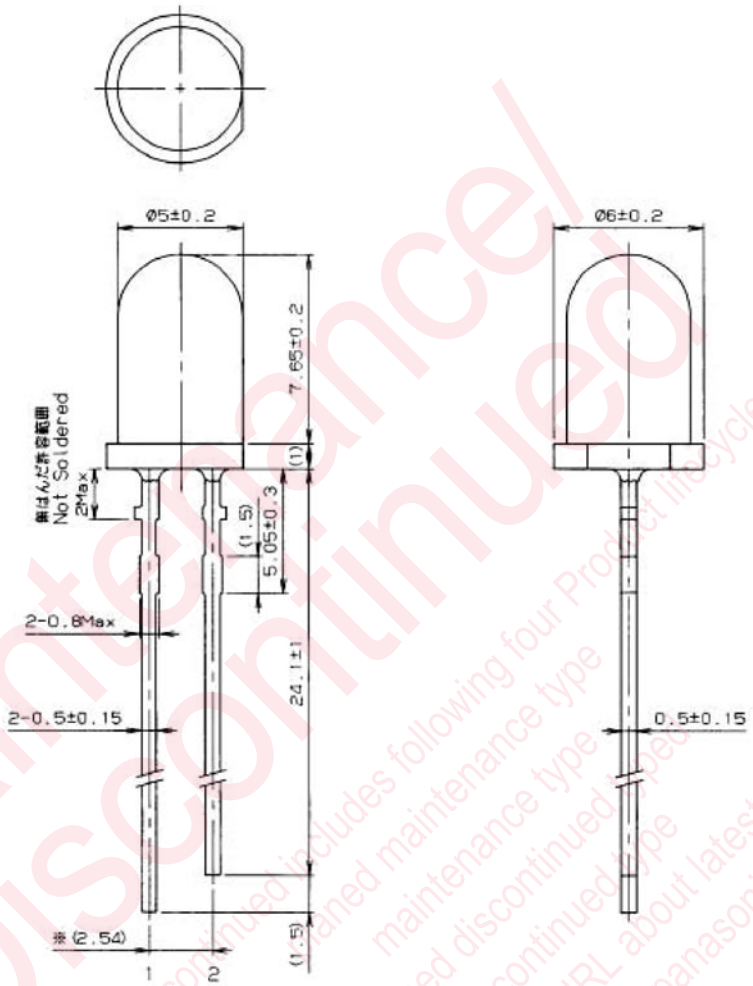


Modulation output — f



■ Package (Unit: mm)

LEXLTN2S0007



- Pin name
  1: Anode
  2: Cathode

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