

# LNA2902L (LN66A(L))

## GaAs infrared light emitting diode

For optical control systems

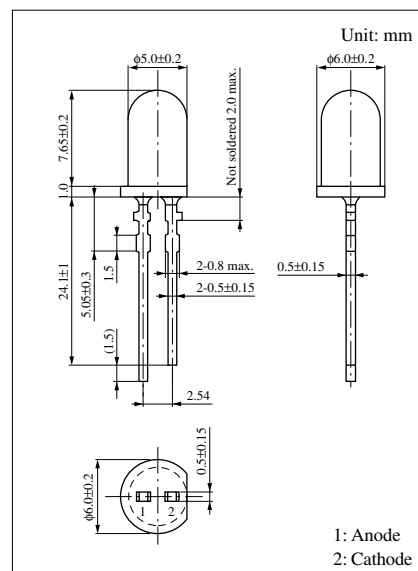
### ■ Features

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

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

Parameter	Symbol	Rating	Unit
Power dissipation	$P_D$	160	mW
Forward current (DC)	$I_F$	100	mA
Pulse forward current *	$I_{FP}$	1.5	A
Reverse voltage (DC)	$V_R$	3	V
Operating ambient temperature	$T_{opr}$	-25 to +85	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-40 to +100	$^\circ\text{C}$

Note) \*: Less than  $f = 100 \text{ Hz}$ , duty cycle = 0.1%



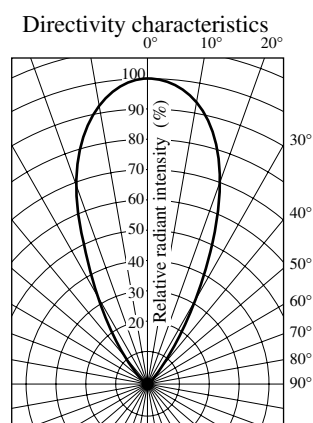
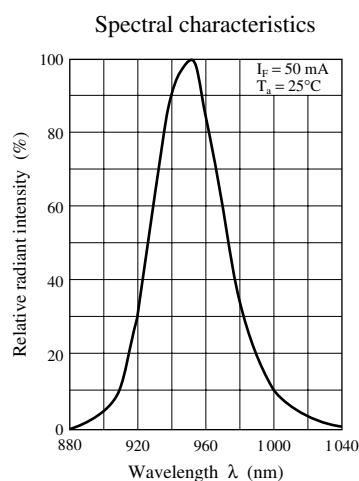
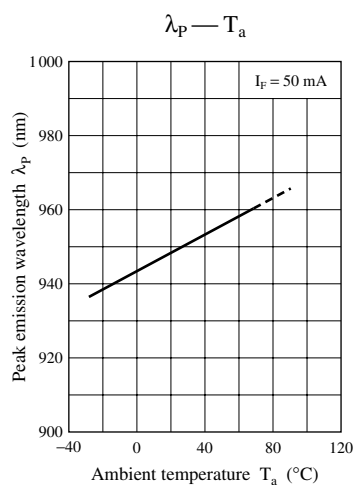
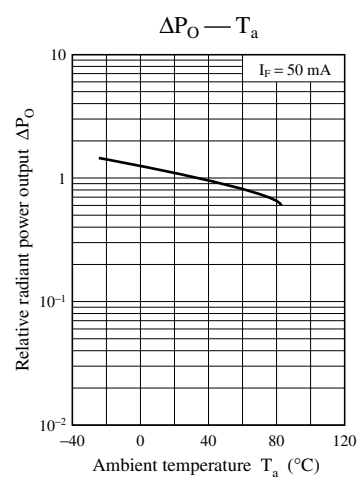
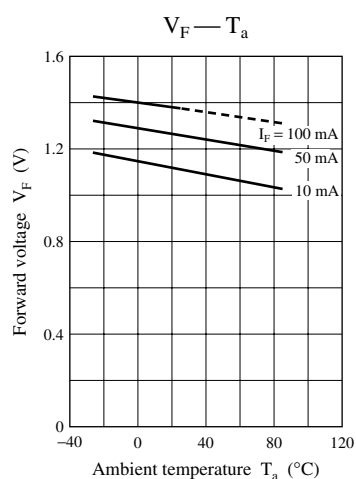
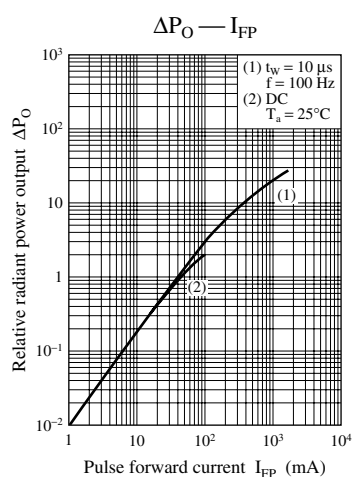
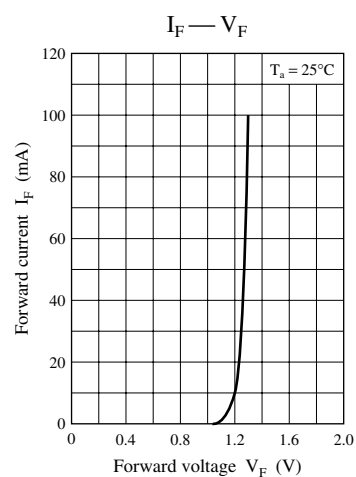
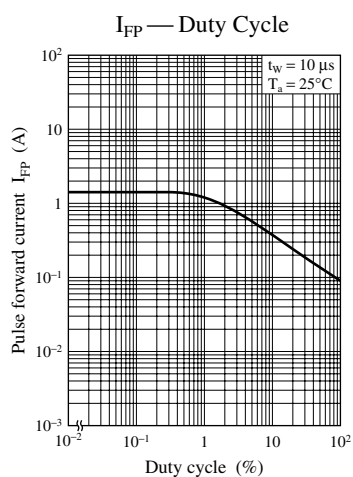
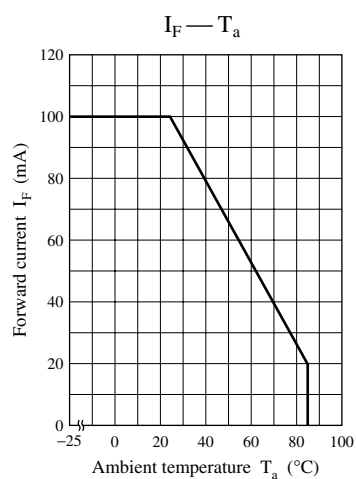
### ■ Electro-Optical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

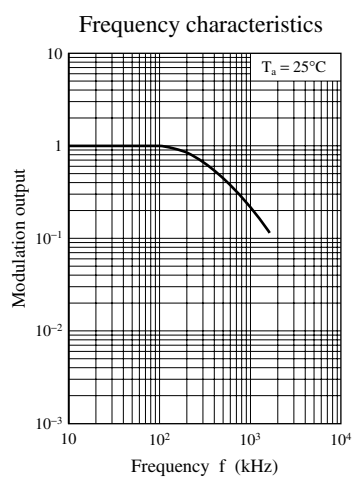
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Radiant intensity	$I_e$	$I_F = 50 \text{ mA}$	9.0			mW/sr
Total power output	$P_O$	$I_F = 50 \text{ mA}$		12.0		mW
Peak emission wavelength	$\lambda_p$	$I_F = 50 \text{ mA}$		950		nm
Spectral band width	$\Delta\lambda$	$I_F = 50 \text{ mA}$		50		nm
Forward voltage	$V_F$	$I_F = 100 \text{ mA}$		1.4	1.6	V
Pulse forward voltage *1	$V_{FP}$	$I_{FP} = 1.0 \text{ A}$			3.0	V
Reverse current	$I_R$	$V_R = 3 \text{ V}$			10	$\mu\text{A}$
Total capacitance between terminals	$C_t$	$V_R = 0 \text{ V}, f = 1 \text{ MHz}$		35		pF
Beal angle at 50% axial intensity	$\theta$	The angle when the beam intensity is halved.		20		$^\circ$
Cut-off frequency *2	$f_C$			1		MHz

Note) \*1: Less than  $f = 100 \text{ Hz}$ , duty cycle = 0.1%

\*2: Cut-off frequency  $f_C: 10 \times \log \frac{P_O \text{ at } f = f_C}{P_O \text{ at } f = 50 \text{ kHz}} = -3$

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





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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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