

# LNA2903L (LN66A)

## GaAs Infrared Light Emitting Diode

For remote control systems

### ■ Features

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

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

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	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-40 to +100	$^\circ\text{C}$

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

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

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Radiant power	$P_O$	$I_F = 50 \text{ mA}$		12.0		mW
Reverse current	$I_R$	$V_R = 3 \text{ V}$			10	$\mu\text{A}$
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
Center radiant intensity *2	$I_e$	$I_F = 50 \text{ mA}$	9.0			mW/sr
Terminal capacitance	$C_t$	$V_R = 0 \text{ V}$ , $f = 1 \text{ MHz}$		35		pF
Peak emission wavelength	$\lambda_p$	$I_F = 50 \text{ mA}$		950		nm
Spectral half band width	$\Delta\lambda$	$I_F = 50 \text{ mA}$		50		nm
Half-power angle	$\theta$	The angle when the radiant power is halved.		20		$^\circ$

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

2. Cutoff frequency: 1 MHz

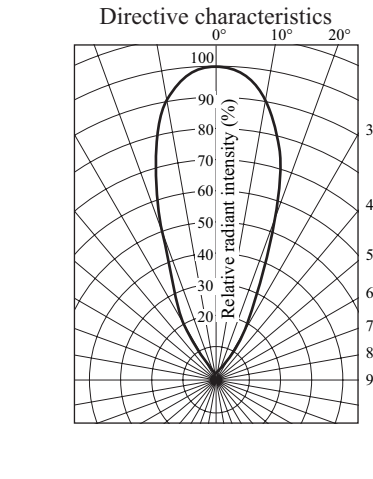
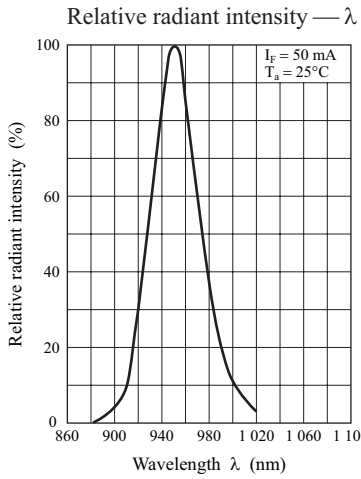
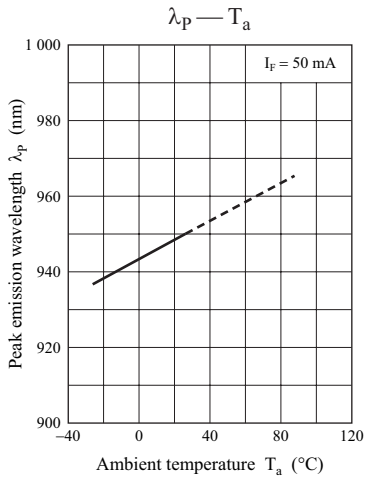
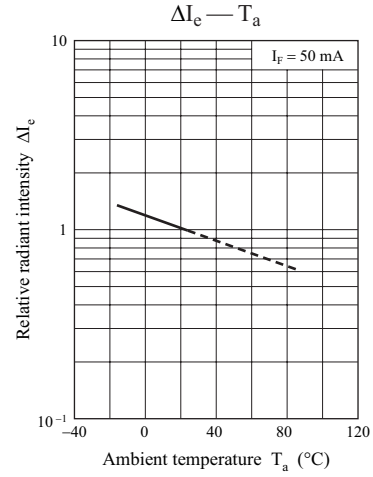
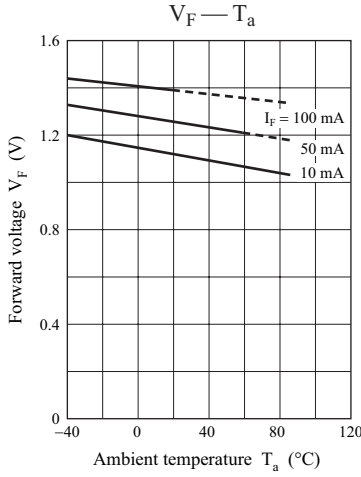
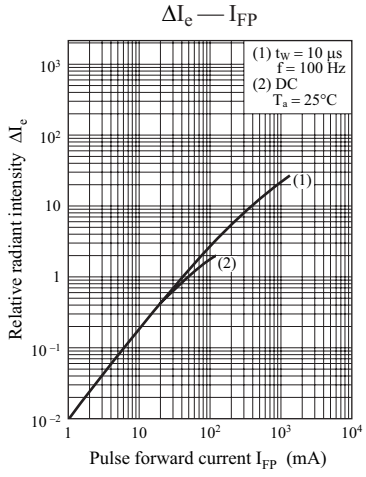
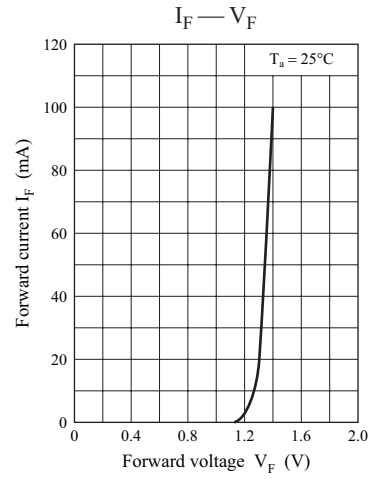
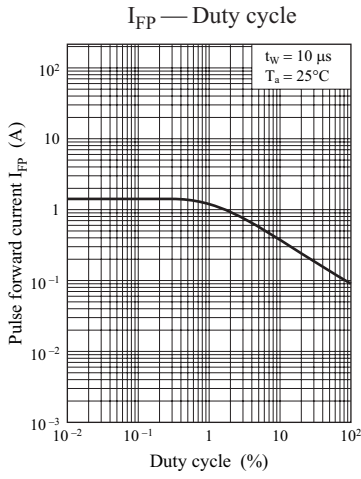
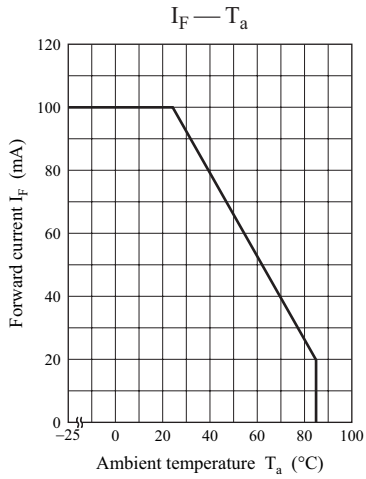
$$f_C : 10 \times \log \frac{P_O \text{ at } f = f_C}{P_O \text{ at } f = 50 \text{ kHz}} = -3$$

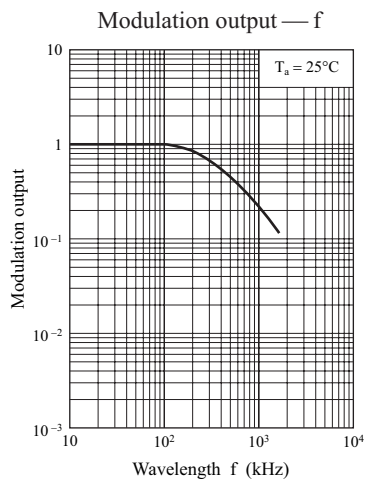
3. \*1:  $f = 100 \text{ Hz}$ , Duty cycle = 0.1%

\*2: Rank classification

Rank	No-rank	S
$I_e$ (mW/sr)	$9.0 \leq$	$11.0 \leq$

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







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