

LNA2903L (LN66A)

GaAs Infrared Light Emitting Diode

For remote control

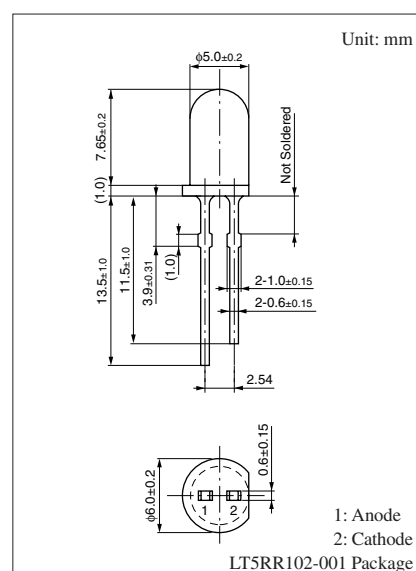
■ Features

- 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: $\theta = 20^\circ \text{ (typ.)}$
- Transparent epoxy resin package

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

| 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 | $^\circ\text{C}$ |
| 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 |
|-----------------------------|-----------------|--|-----|------|-----|---------------|
| 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 | μA |
| Center radiant intensity *2 | I_e | $I_F = 50 \text{ mA}$ | 9.0 | | | mW/sr |
| Radiant power | P_O | $I_F = 50 \text{ mA}$ | | 12.0 | | mW |
| Peak emission wavelength | λ_P | $I_F = 50 \text{ mA}$ | | 950 | | nm |
| Spectral half band width | $\Delta\lambda$ | $I_F = 50 \text{ mA}$ | | 50 | | nm |
| Terminal capacitance | C_t | $V_R = 0 \text{ V}$, $f = 1 \text{ MHz}$ | | 35 | | pF |
| Half-power angle | θ | 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

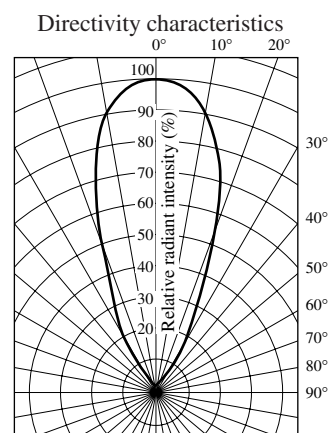
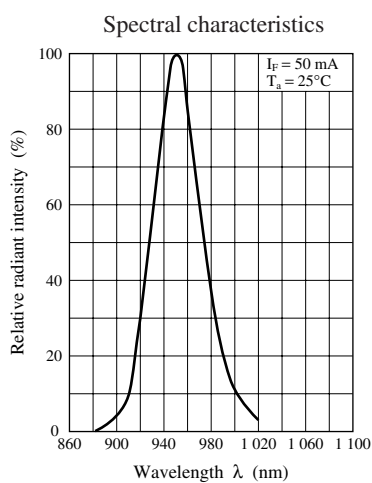
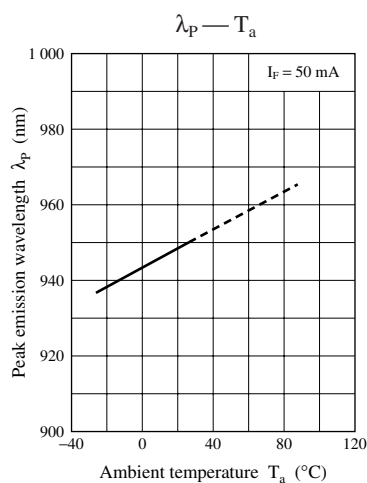
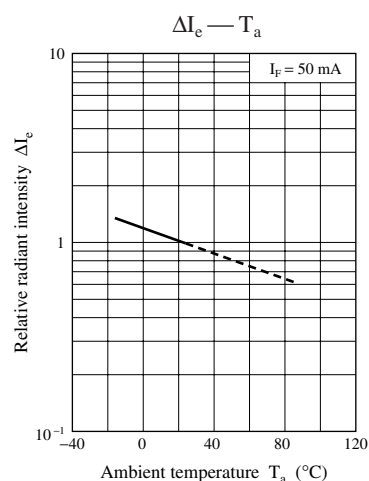
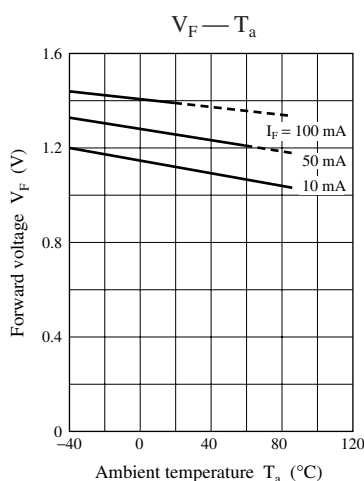
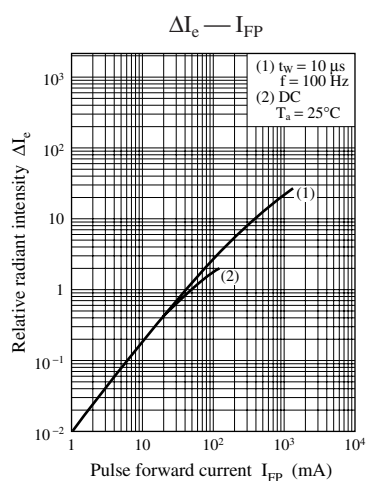
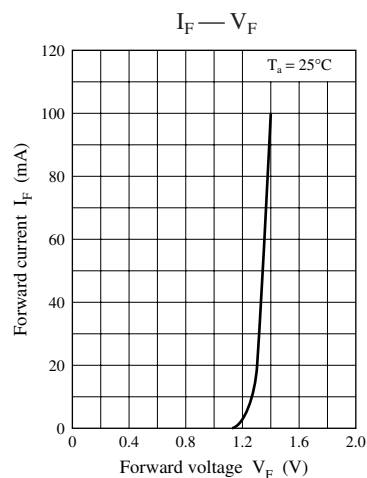
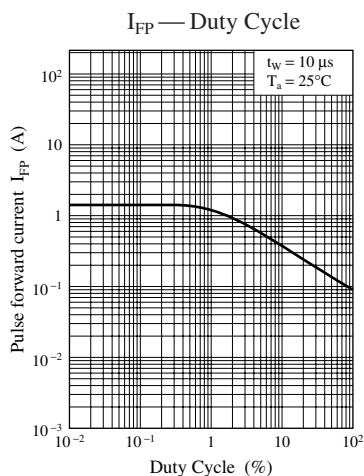
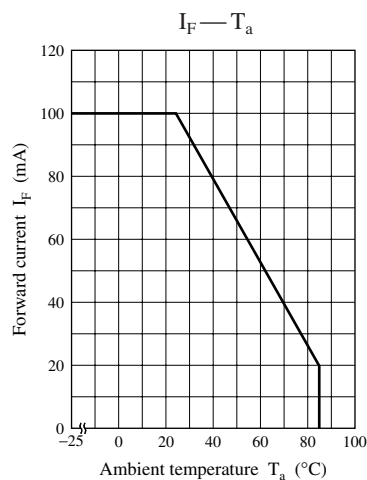
$$f_c: 10 \times \log \frac{P_O \text{ at } f = f_c}{P_O \text{ at } f = 50 \text{ kHz}} = -3$$

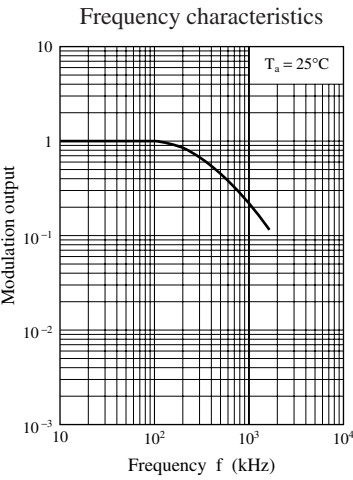
3. *1: $f = 100 \text{ Hz}$, Duty Cycle = 0.1%

*2: Rank classification

| Rank | No-rank | S |
|-----------------------|---------|--------|
| $I_e \text{ (mW/sr)}$ | > 9.0 | > 11.0 |

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





Caution for Safety

 **DANGER**

■ This product contains Gallium Arsenide (GaAs).

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 from general industrial waste or household garbage.

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