

# LNA2W01L (LN57)

## GaAs Infrared Light Emitting Diode

For optical control systems

### ■ Features

- High-power output, high-efficiency:  $P_O = 4.5 \text{ mW}$  (typ.)
- Emitted light spectrum suited for silicon photodetectors
- Infrared light emission close to monochromatic light:  $\lambda_P = 950 \text{ nm}$  (typ.)
- Wide directivity:  $\theta = 18^\circ$  (typ.)
- Ultra-miniature double ended package

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

| Parameter                     | Symbol    | Rating      | Unit |
|-------------------------------|-----------|-------------|------|
| Power dissipation             | $P_D$     | 75          | mW   |
| Forward current               | $I_F$     | 50          | mA   |
| Pulse forward current *       | $I_{FP}$  | 1           | A    |
| Reverse voltage               | $V_R$     | 3           | V    |
| Operating ambient temperature | $T_{opr}$ | -25 to +85  | °C   |
| Storage temperature           | $T_{stg}$ | -30 to +100 | °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 *          | $P_O$           | $I_F = 50 \text{ mA}$                       | 3.0  | 4.5  |     | mW   |
| Reverse current          | $I_R$           | $V_R = 3 \text{ V}$                         |      | 10   |     | μA   |
| Forward voltage          | $V_F$           | $I_F = 50 \text{ mA}$                       | 1.25 | 1.50 |     | V    |
| 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. | 18   |      |     | °    |

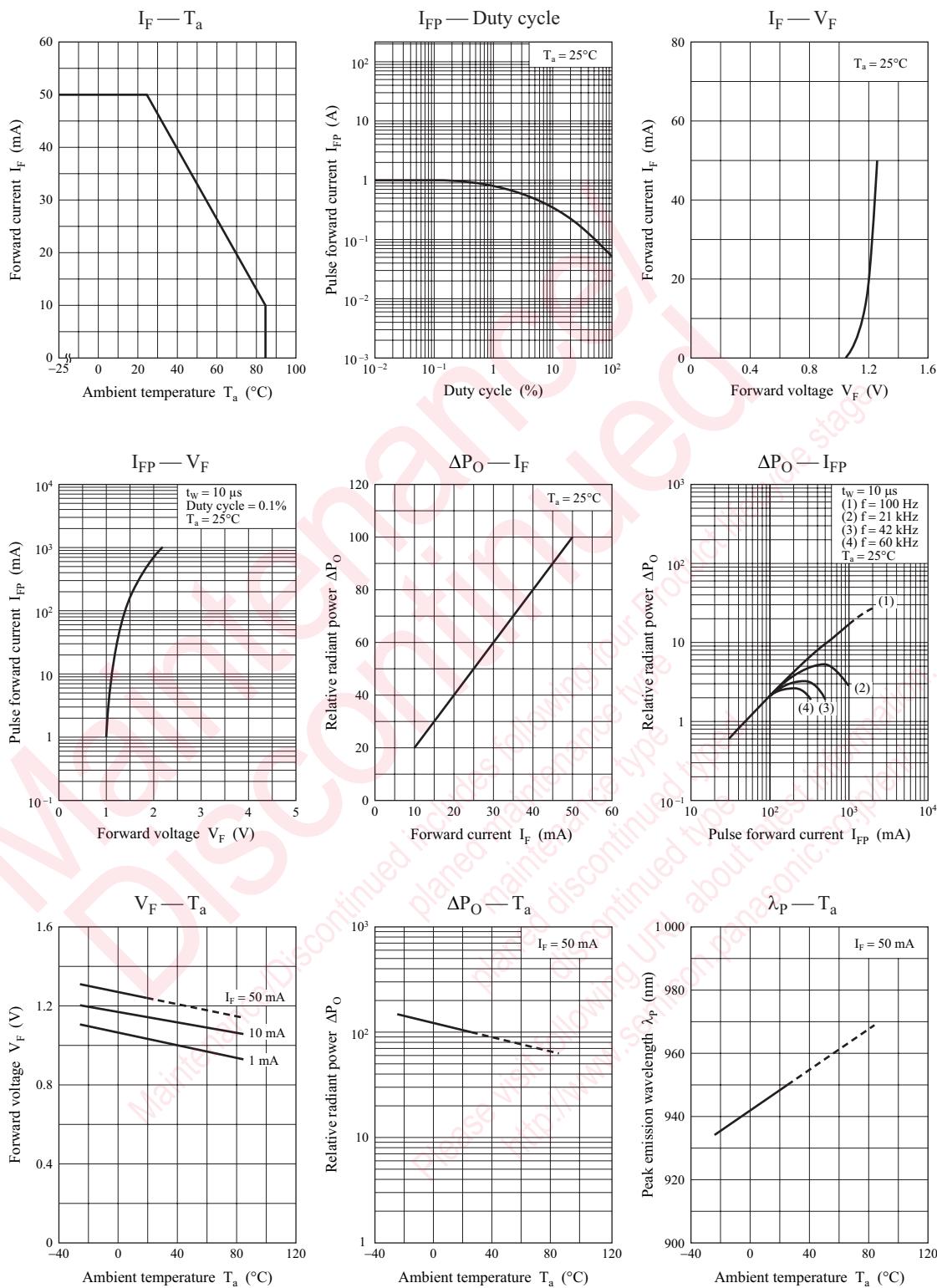
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7031 measuring methods for diodes.

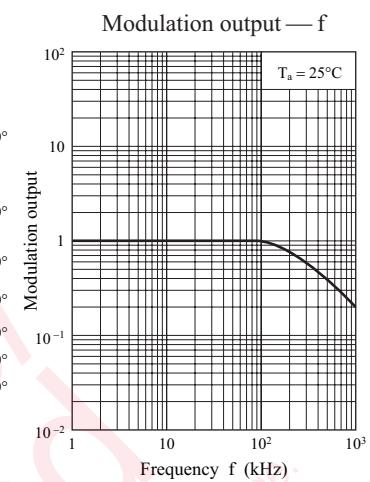
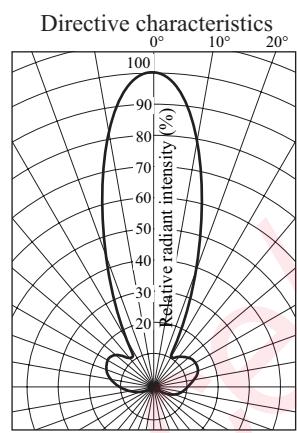
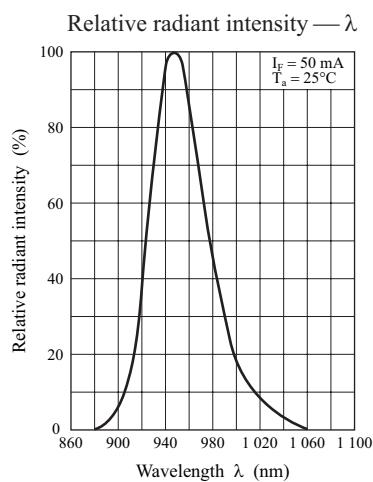
2. Cutoff frequency: 1 MHz

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

3. \*: A light detection element uses a silicon diode have proofread a load with a standard device.

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

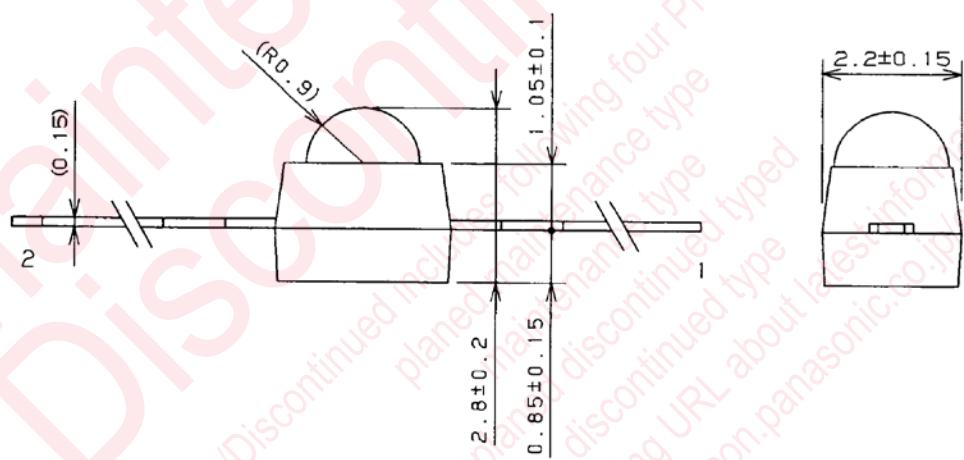
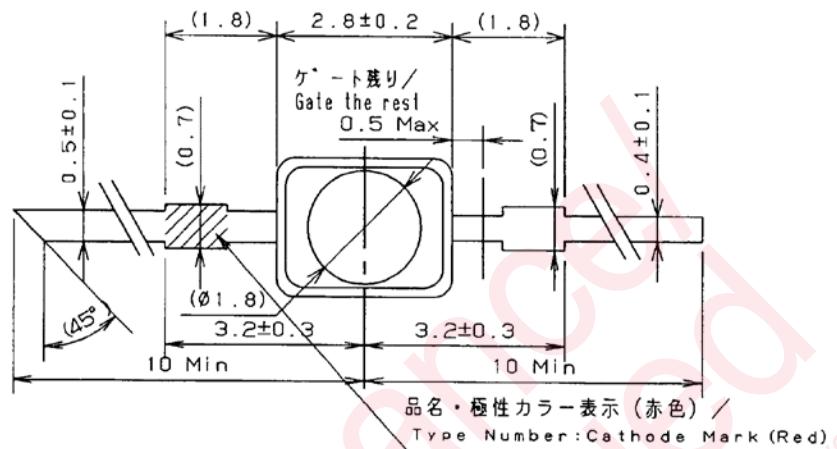




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planned maintenance type  
planned discontinued type  
discontinued type  
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■ Package (Unit: mm)

LETLTN2S0001



- Pin name
- 1: Anode
- 2: Cathode

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