

# LNA2603F (LN155)

## GaAs Infrared Light Emitting Diode

For optical control systems

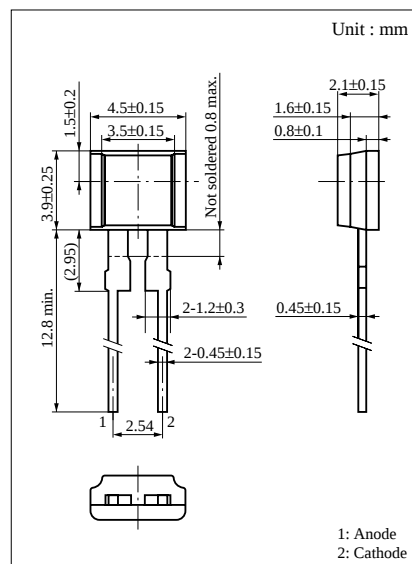
### ■ Features

- High-power output, high-efficiency :  $P_O = 6 \text{ mW}$  (typ.)
- Emitted light spectrum suited for silicon photodetectors :  
 $\lambda_p = 940 \text{ nm}$  (typ.)
- Long lifetime, high reliability
- Thin side-view type package

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

| Parameter                     | Symbol     | Ratings         | 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 $+100$ | $^\circ\text{C}$ |

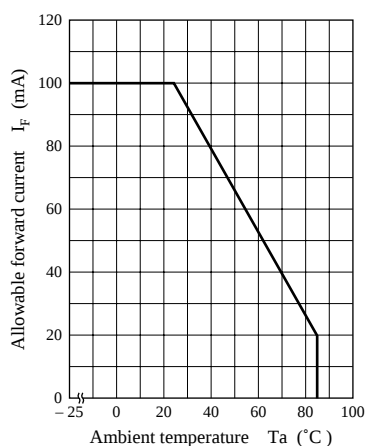
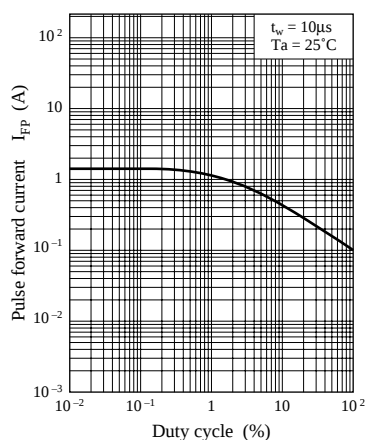
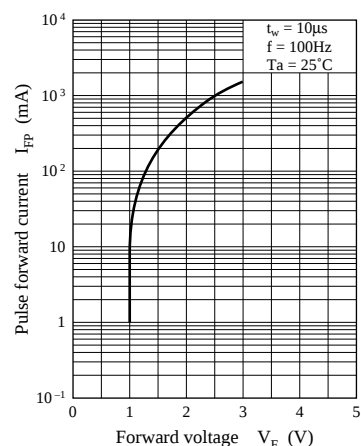
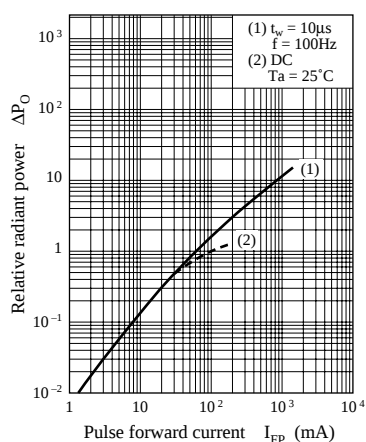
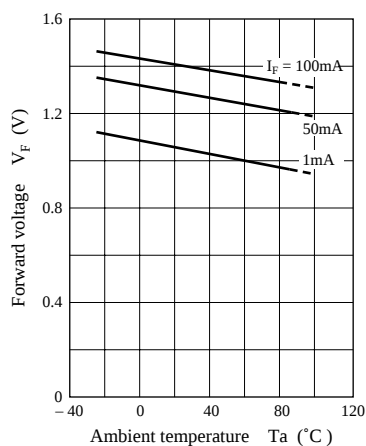
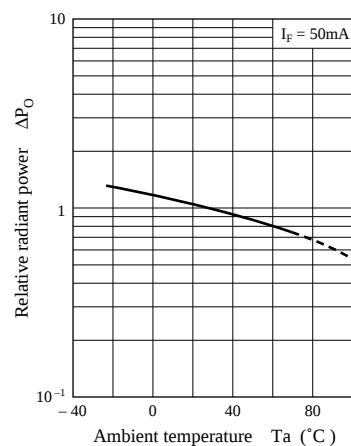
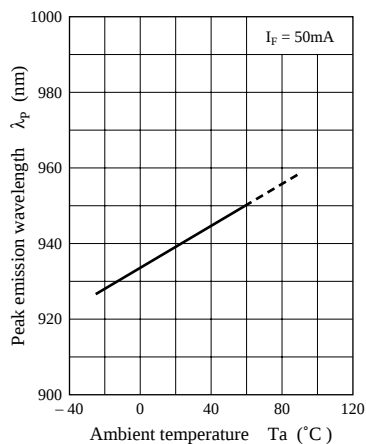
\*  $f = 100 \text{ Hz}$ , Duty cycle = 0.1 %



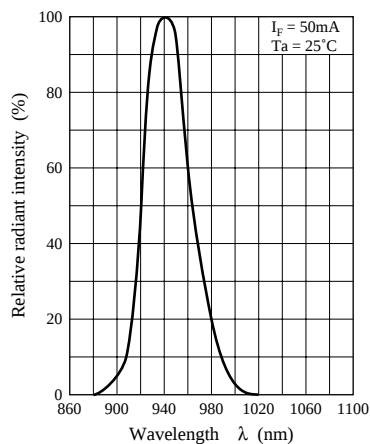
### ■ Electro-Optical Characteristics ( $T_a = 25^\circ\text{C}$ )

| Parameter                | Symbol          | Conditions                                  | min | typ | max | Unit          |
|--------------------------|-----------------|---------------------------------------------|-----|-----|-----|---------------|
| Radiant power            | $P_O$           | $I_F = 50\text{mA}$                         | 3   | 6   |     | mW            |
| Peak emission wavelength | $\lambda_p$     | $I_F = 50\text{mA}$                         |     | 940 |     | nm            |
| Spectral half band width | $\Delta\lambda$ | $I_F = 50\text{mA}$                         |     | 50  |     | nm            |
| Forward voltage (DC)     | $V_F$           | $I_F = 100\text{mA}$                        |     | 1.3 | 1.6 | V             |
| Reverse current (DC)     | $I_R$           | $V_R = 3\text{V}$                           |     |     | 10  | $\mu\text{A}$ |
| Capacitance between pins | $C_t$           | $V_R = 0\text{V}$ , $f = 1\text{MHz}$       |     | 45  |     | pF            |
| Rise time                | $t_r$           | $I_{FP} = 100\text{mA}$                     |     | 1   |     | $\mu\text{s}$ |
| Fall time                | $t_f$           |                                             |     | 1   |     | $\mu\text{s}$ |
| Half-power angle         | $\theta$        | The angle in which radiant intensity is 50% |     | 80  |     | deg.          |

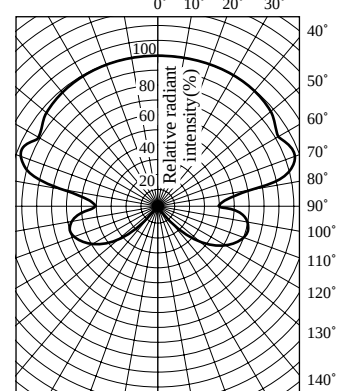
Note) The part number in the parenthesis shows conventional part number.

$I_F - T_a$  $I_{FP} - \text{Duty cycle}$  $I_{FP} - V_F$  $\Delta P_O - I_{FP}$  $V_F - T_a$  $\Delta P_O - T_a$  $\lambda_p - T_a$ 

Spectral characteristics



Directivity characteristics



# Caution for Safety

 **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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