

LN52

GaAs Infrared Light Emitting Diode

For optical control systems

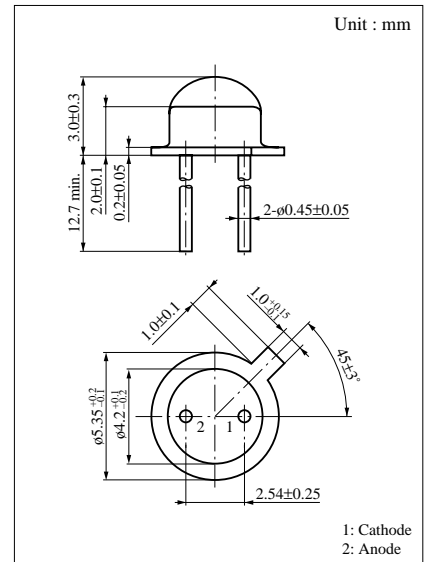
■ Features

- High-power output, high-efficiency : $P_O = 6 \text{ mW (typ.)}$
- Wide directivity, matched for external optical systems : $\theta = 100 \text{ deg.}$
- Infrared light emission close to monochromatic light : $\lambda_p = 950 \text{ nm}$
- Optimum for measuring instruments and control equipments in combination with silicon photodetectors

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

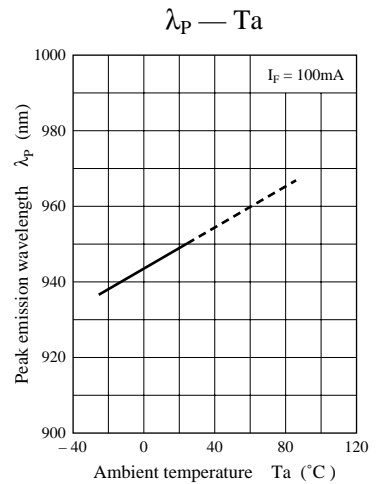
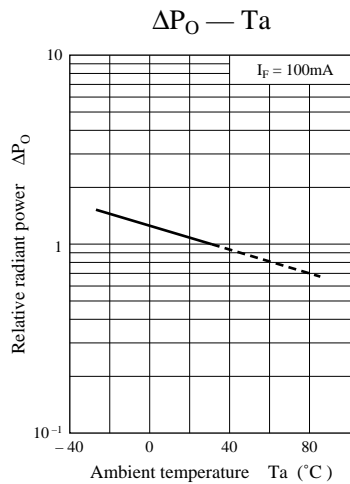
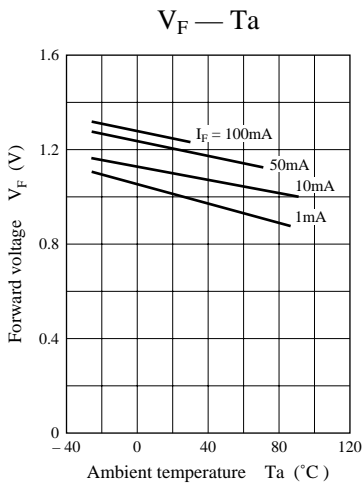
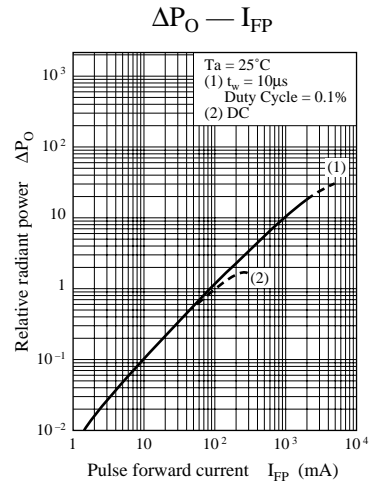
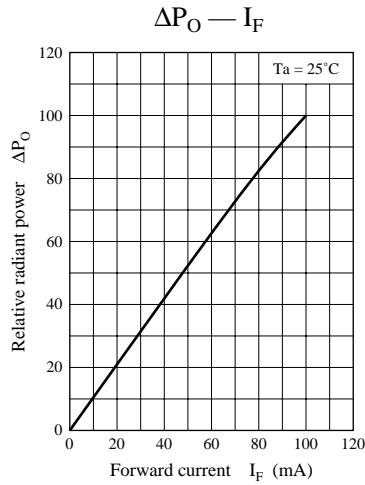
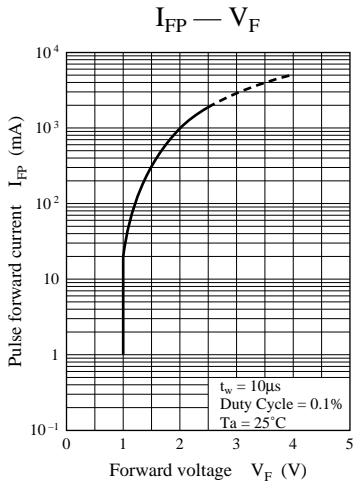
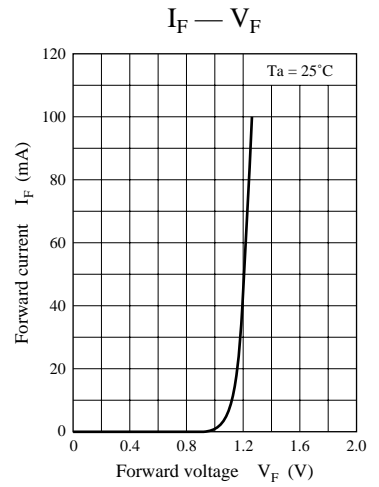
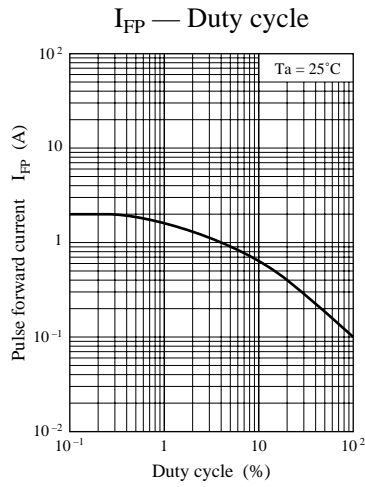
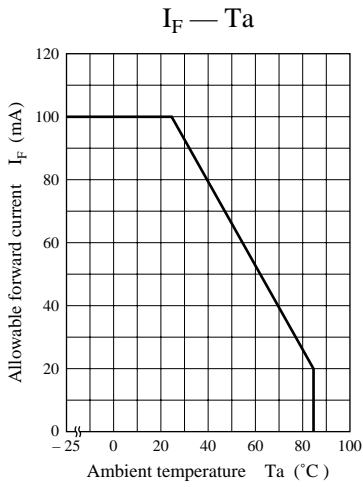
| Parameter | Symbol | Ratings | Unit |
|-------------------------------|------------|-------------|------------------|
| Power dissipation | P_D | 160 | mW |
| Forward current (DC) | I_F | 100 | mA |
| Pulse forward current | I_{FP}^* | 2 | A |
| Reverse voltage (DC) | V_R | 3 | V |
| Operating ambient temperature | T_{opr} | -25 to +85 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -30 to +100 | $^\circ\text{C}$ |

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

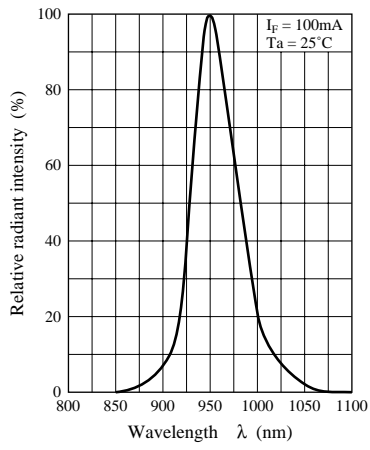


■ Electro-Optical Characteristics ($T_a = 25^\circ\text{C}$)

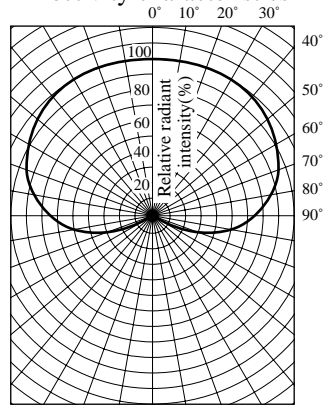
| Parameter | Symbol | Conditions | min | typ | max | Unit |
|--------------------------|-----------------|---|-----|------|-----|---------------|
| Radiant power | P_O | $I_F = 100\text{mA}$ | 3.5 | 6 | | mW |
| Peak emission wavelength | λ_p | $I_F = 100\text{mA}$ | | 950 | | nm |
| Spectral half band width | $\Delta\lambda$ | $I_F = 100\text{mA}$ | | 50 | | nm |
| Forward voltage (DC) | V_F | $I_F = 100\text{mA}$ | | 1.25 | 1.6 | V |
| Reverse current (DC) | I_R | $V_R = 3\text{V}$ | | | 10 | μA |
| Capacitance between pins | C_t | $V_R = 0\text{V}$, $f = 1\text{MHz}$ | | 50 | | pF |
| Rise time | t_r | $I_{FP} = 100\text{mA}$ | | 1 | | μs |
| Fall time | t_f | | | 1 | | μs |
| Half-power angle | θ | The angle in which radiant intensity is 50% | | 100 | | deg. |



Spectral characteristics



Directivity characteristics



Frequency characteristics

