

# LN52

## GaAs Infrared Light Emitting Diode

For optical control systems

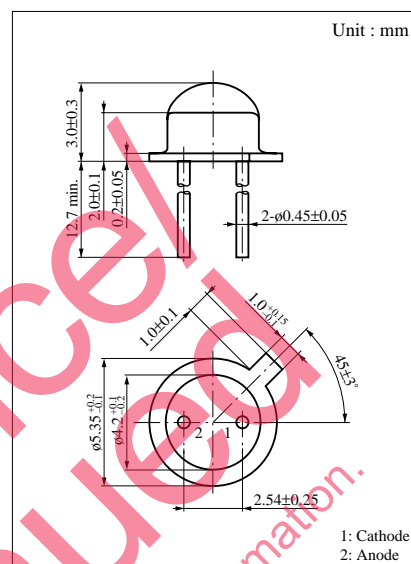
### ■ Features

- 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 ( $T_a = 25^\circ\text{C}$ )

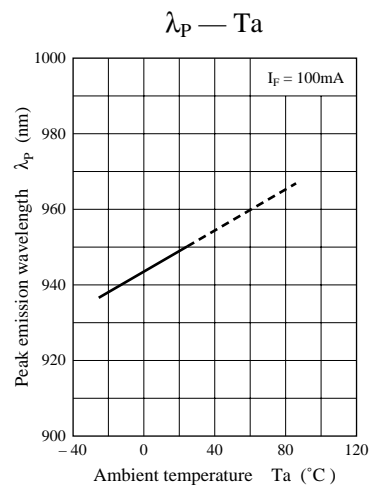
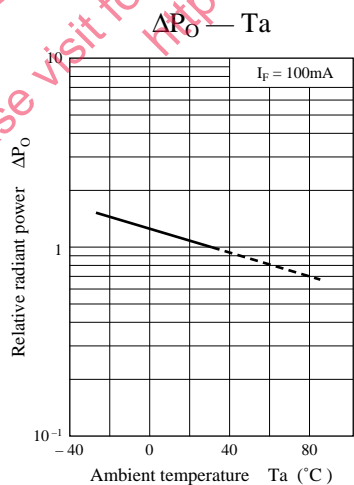
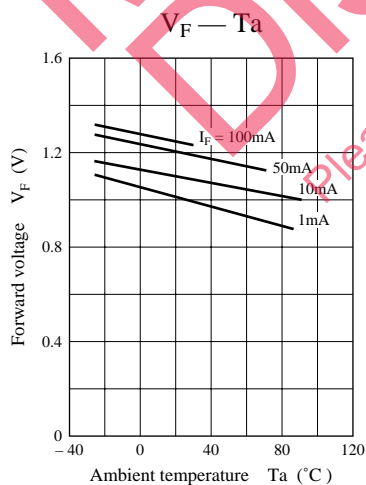
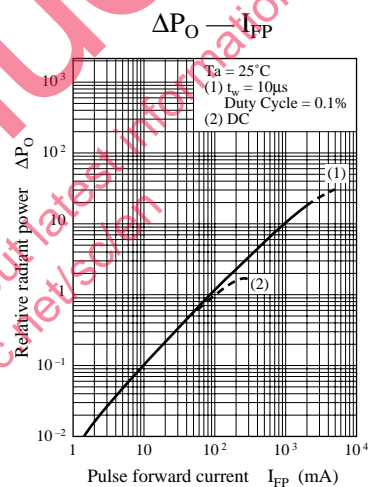
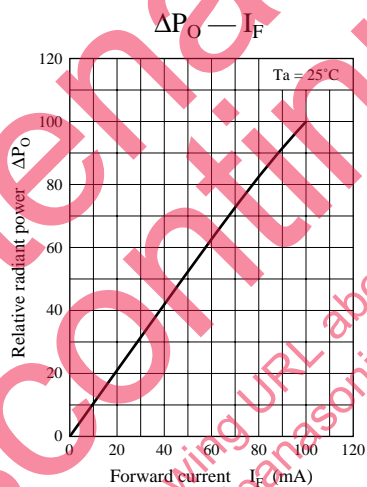
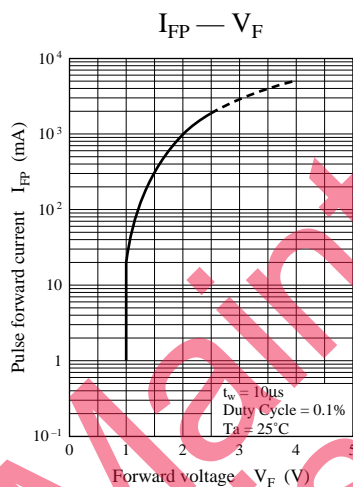
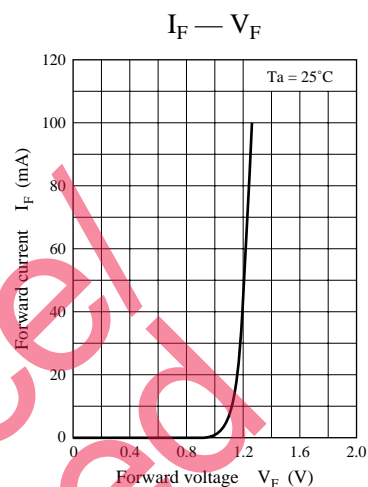
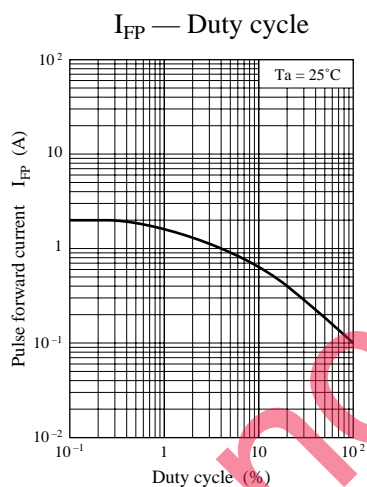
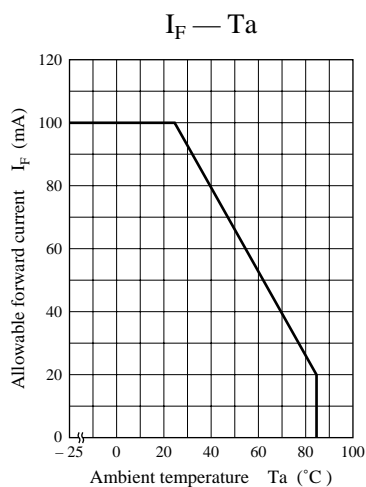
Parameter	Symbol	Ratings	Unit
Power dissipation	$P_D$	160	mW
Forward current (DC)	$I_F$	100	mA
Pulse forward current	$I_{FP}^*$	2	A
Reverse voltage (DC)	$V_R$	3	V
Operating ambient temperature	$T_{opr}$	-25 to +85	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-30 to +100	$^\circ\text{C}$

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

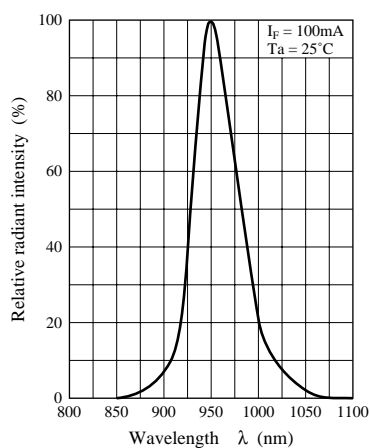


### ■ Electro-Optical Characteristics ( $T_a = 25^\circ\text{C}$ )

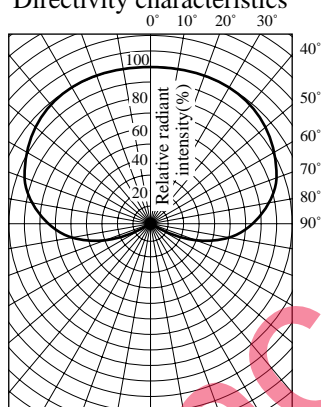
Parameter	Symbol	Conditions	min	typ	max	Unit
Radiant power	$P_O$	$I_F = 100 \text{ mA}$	3.5	6		mW
Peak emission wavelength	$\lambda_p$	$I_F = 100 \text{ mA}$		950		nm
Spectral half band width	$\Delta\lambda$	$I_F = 100 \text{ mA}$		50		nm
Forward voltage (DC)	$V_F$	$I_F = 100 \text{ mA}$		1.25	1.6	V
Reverse current (DC)	$I_R$	$V_R = 3 \text{ V}$			10	$\mu\text{A}$
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		$\mu\text{s}$
Fall time	$t_f$			1		$\mu\text{s}$
Half-power angle	$\theta$	The angle in which radiant intensity is 50%		100		deg.



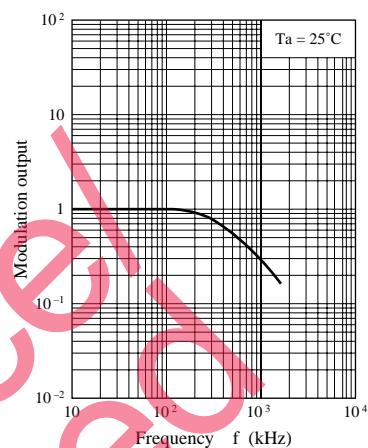
Spectral characteristics



Directivity characteristics



Frequency characteristics



Maintenance  
Discontinued

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# 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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