

# LN152

## GaAs Infrared Light Emitting Diode

For optical control systems

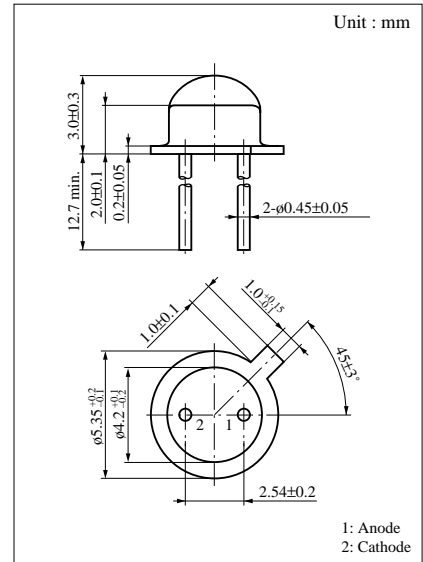
### ■ Features

- High-power output, high-efficiency :  $P_O = 10$  mW (typ.)
- Wide directivity, matched for external optical systems :  $\theta = 100$  deg.
- Infrared light emission close to monochromatic light :  
 $\lambda_p = 950$  nm (typ.)
- Optimum for measuring instruments and control equipments  
in combination with silicon photodetectors
- High-speed modulation

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

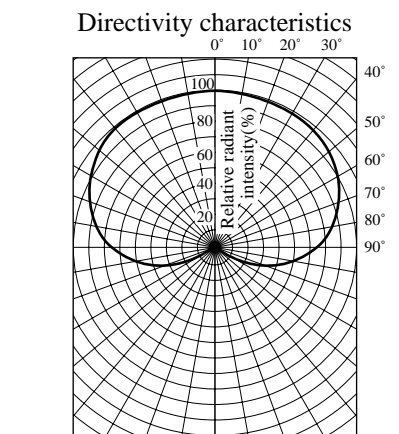
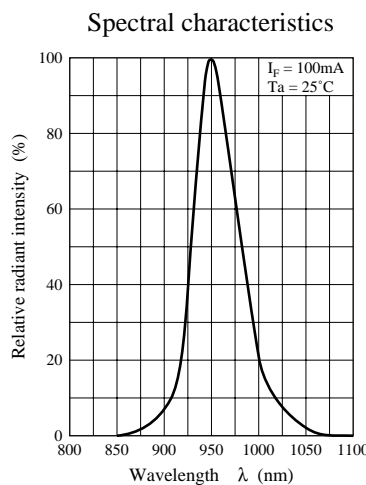
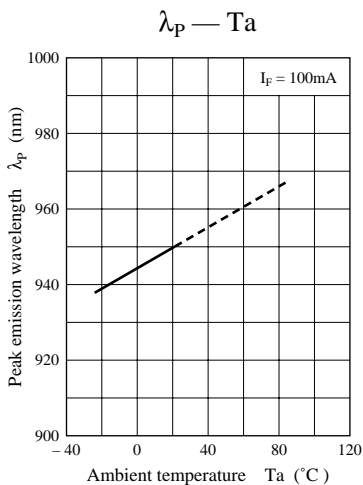
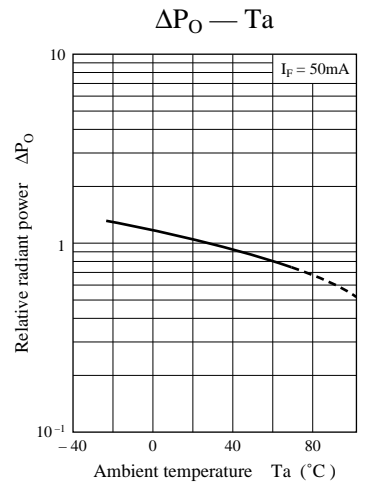
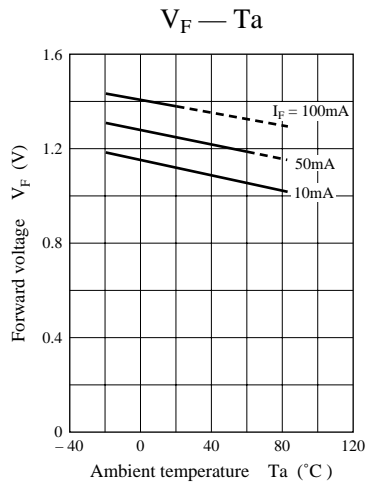
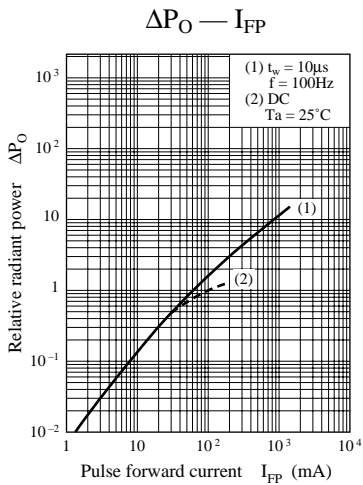
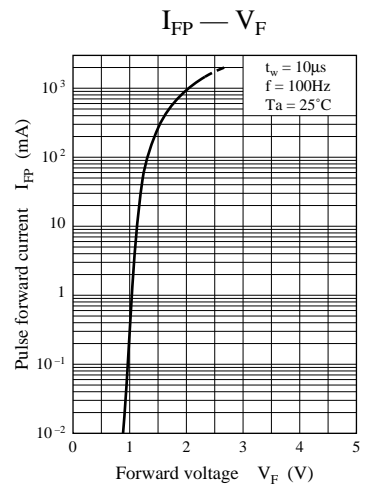
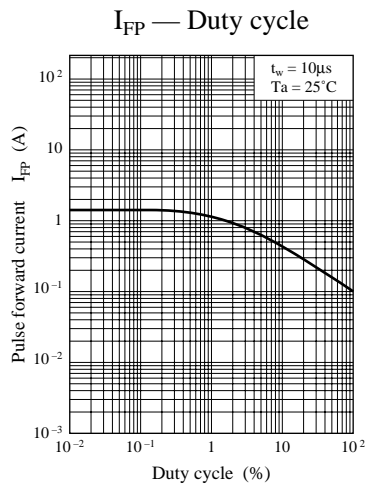
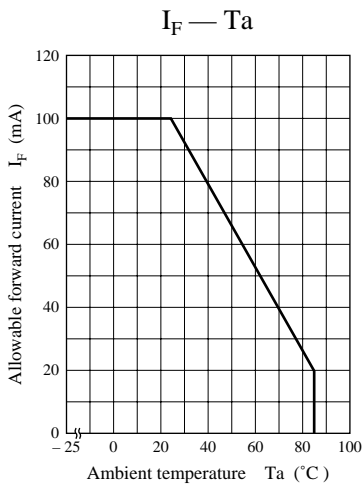
Parameter	Symbol	Ratings	Unit
Power dissipation	$P_D$	160	mW
Forward current (DC)	$I_F$	100	mA
Pulse forward current	$I_{FP}^*$	1.5	A
Reverse voltage (DC)	$V_R$	3	V
Operating ambient temperature	$T_{opr}$	-25 to +85	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-30 to +100	$^\circ\text{C}$

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



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

Parameter	Symbol	Conditions	min	typ	max	Unit
Radiant power	$P_O$	$I_F = 100\text{mA}$	5	10		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)	$V_F$	$I_F = 100\text{mA}$		1.3	1.6	V
Reverse current (DC)	$I_R$	$V_R = 3\text{V}$			10	$\mu\text{A}$
Capacitance between pins	$C_t$	$V_R = 0\text{V}$ , $f = 1\text{MHz}$		60		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.



# 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.

Observe the relevant laws and regulations when disposing of the products. Do not mix them with ordinary industrial waste or household refuse when disposing of GaAs-containing products.

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