

LN54

GaAs Infrared Light Emitting Diode

For optical control systems

■ Features

- High-power output, high-efficiency: $P_O = 4.6$ mW (typ.)
- Emitted light spectrum suited for silicon photodetectors
- Infrared light emission close to monochromatic light: $\lambda_p = 950$ nm (typ.)
- Small size, thin side-view type 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	$^\circ\text{C}$
Storage temperature	T_{stg}	-30 to +100	$^\circ\text{C}$

Note) *: $f = 100$ Hz, Duty cycle = 0.1%

■ Electro-Optical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

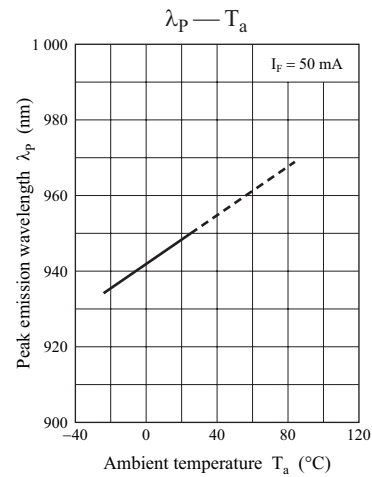
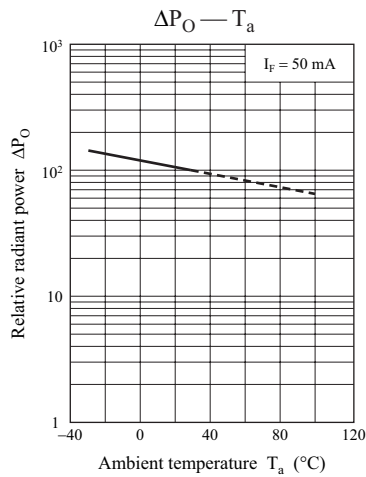
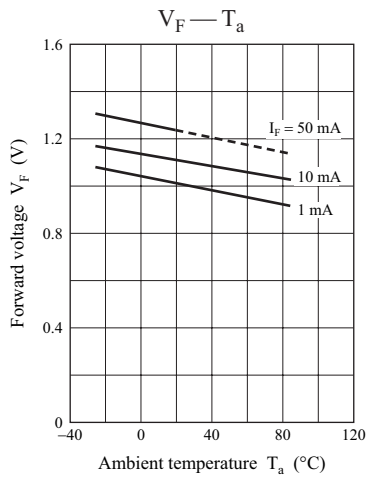
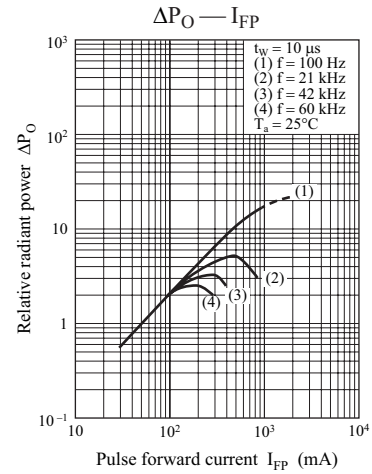
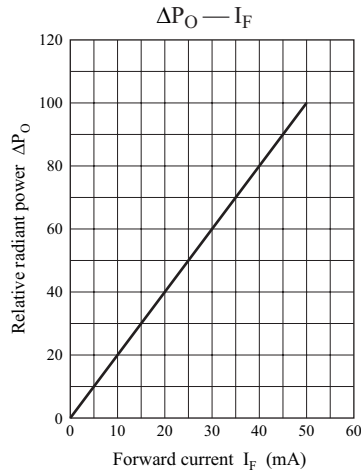
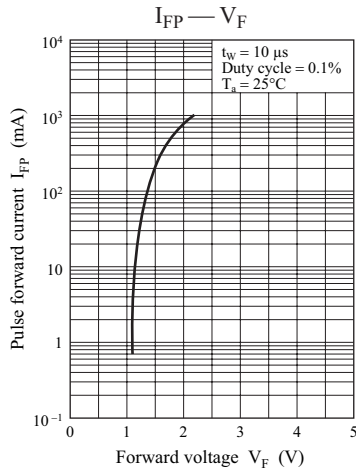
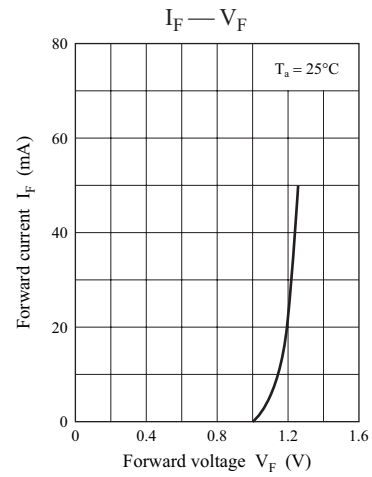
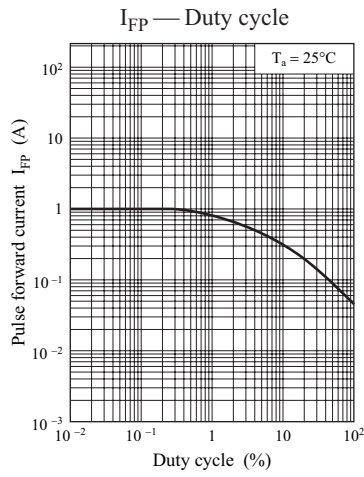
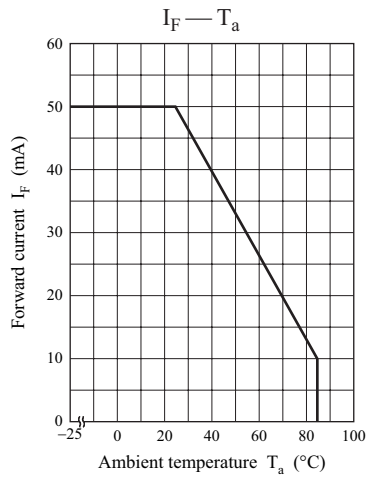
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Radiant power *	P_O	$I_F = 50$ mA	2.5	4.6		mW
Reverse current	I_R	$V_R = 3$ V			10	μA
Forward voltage	V_F	$I_F = 50$ mA			1.5	V
Terminal capacitance	C_t	$V_R = 0$ V, $f = 1$ MHz		35		pF
Peak emission wavelength	λ_p	$I_F = 50$ mA		950		nm
Spectral half band width	$\Delta\lambda$	$I_F = 50$ mA		50		nm
Half-power angle	θ	The angle when the radiant power is halved.		17		$^\circ$

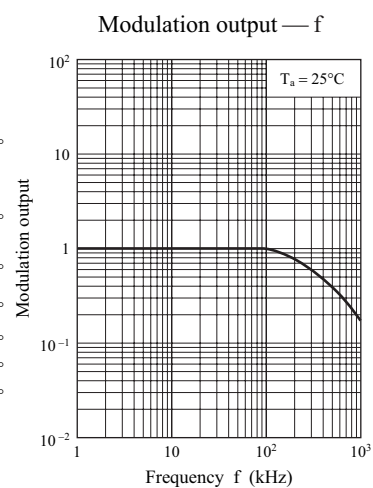
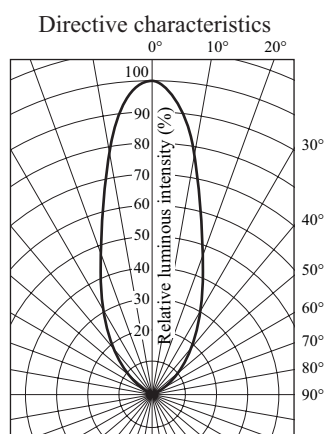
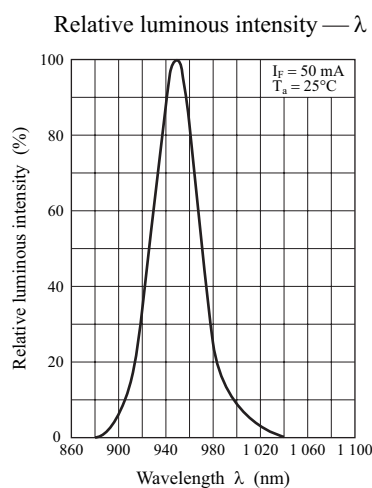
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7031 measuring methods for diodes.

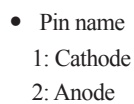
2. Cutoff frequency: 1 MHz

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

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







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