

LN78

GaAlAs Infrared Light Emitting Diode

For optical control systems

■ Features

- High-power output, high-efficiency: $P_O = 10 \text{ mW}$ (typ.)
- High-speed modulation capability: $f_C = 12 \text{ MHz}$

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

Parameter	Symbol	Rating	Unit
Power dissipation	P_D	180	mW
Forward current	I_F	100	mA
Pulse forward current *	I_{FP}	1.0	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) *: $f = 100 \text{ Hz}$, 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	$I_F = 50 \text{ mA}$	6	10		mW
Reverse current	I_R	$V_R = 3 \text{ V}$			10	μA
Forward voltage	V_F	$I_F = 100 \text{ mA}$		1.5	1.8	V
Peak emission wavelength	λ_p	$I_F = 50 \text{ mA}$		880		nm
Spectral half band width	$\Delta\lambda$	$I_F = 50 \text{ mA}$		50		nm
Terminal capacitance	C_t	$V_R = 0 \text{ V}$, $f = 1 \text{ MHz}$		50		pF
Half-power angle	θ	The angle when the radiant power is halved.		40		$^\circ$

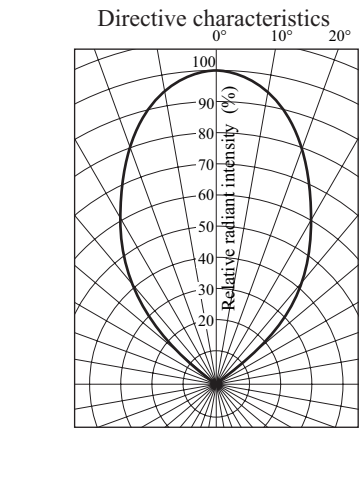
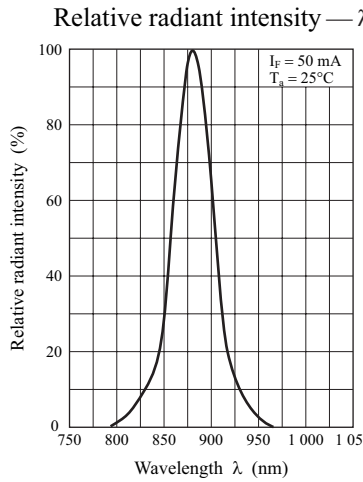
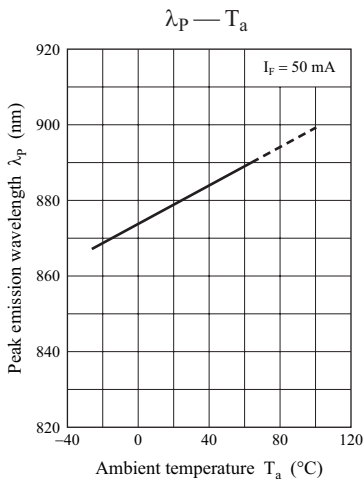
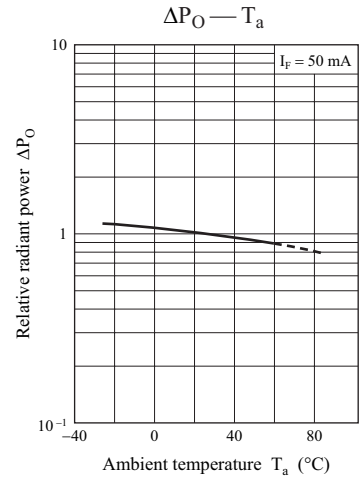
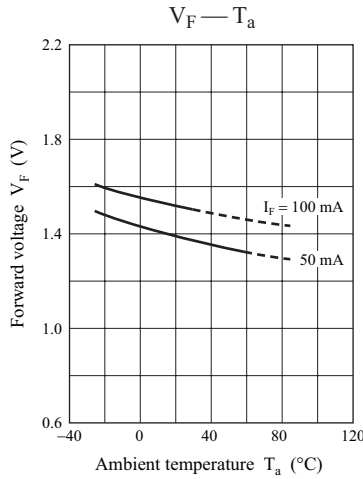
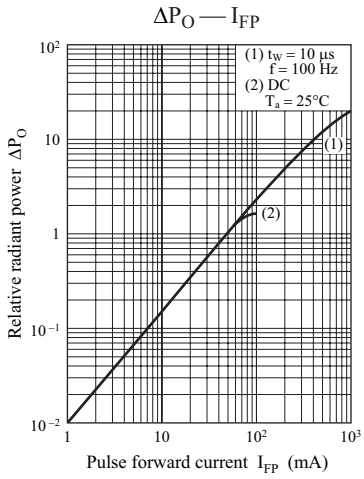
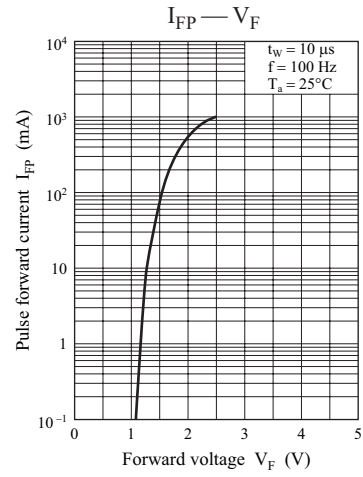
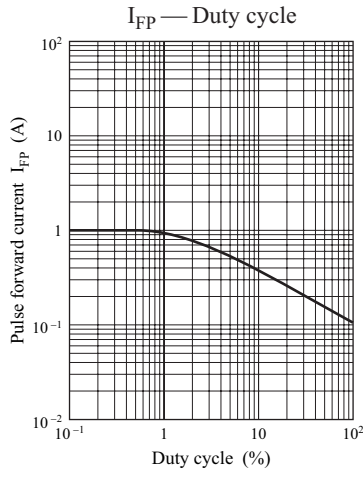
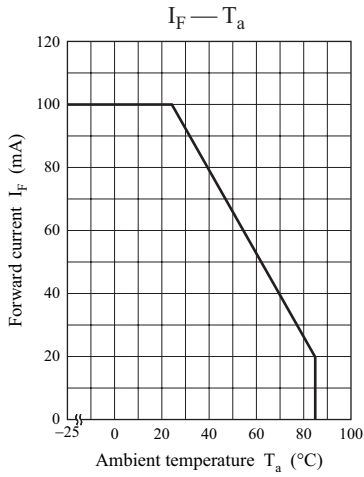
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7031 measuring methods for diodes.

2. Modulation total power output 3 dB frequency to fall from 1 MHz.

Cutoff frequency: 12 MHz

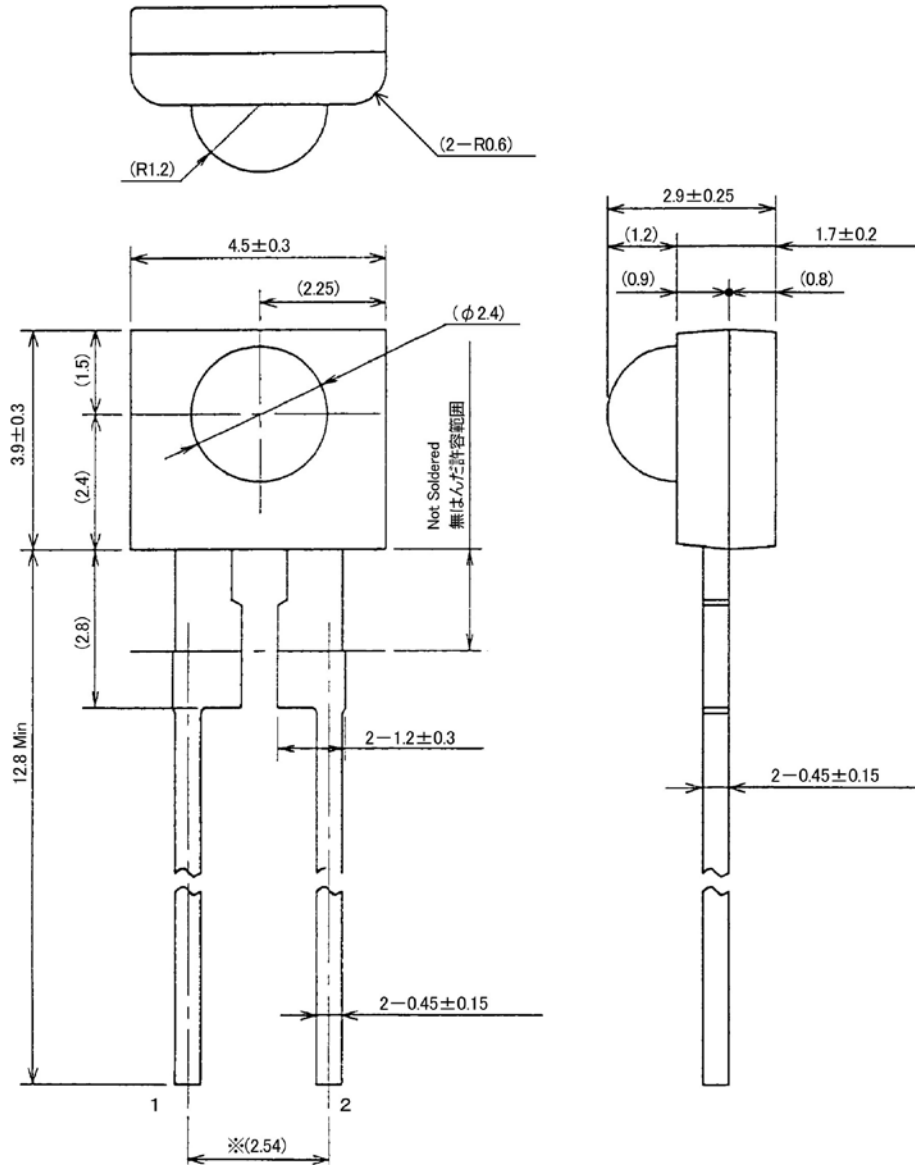
$$f_C : 10 \times \log \frac{P_O \text{ at } f = f_C}{P_O \text{ at } f = 1 \text{ MHz}} = -3$$

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



■ Package (Unit: mm)

LETLSN2S0003



- Pin name
- 1: Cathode
- 2: Anode

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