

LN172

GaAlAs Infrared Light Emitting Diode

For optical control systems

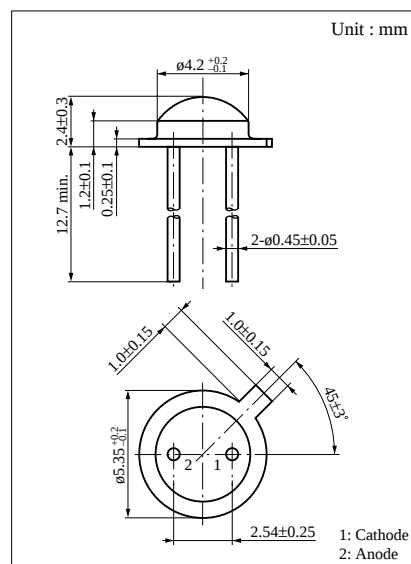
■ Features

- High-power output, high-efficiency : $P_O = 12 \text{ mW (typ.)}$
- Light emitting spectrum suited for silicon photodetectors :
 $\lambda_p = 900 \text{ nm (typ.)}$
- Good optical power output linearity with respect to input current
- Wide directivity : $\theta = 100 \text{ deg. (typ.)}$
- Long lifetime, high reliability

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

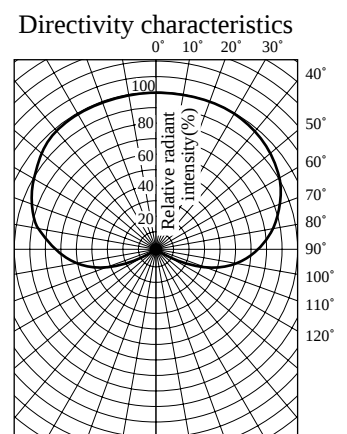
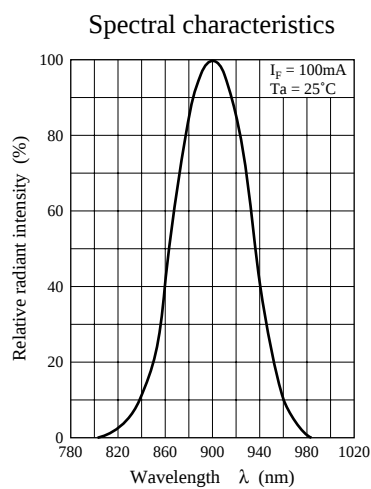
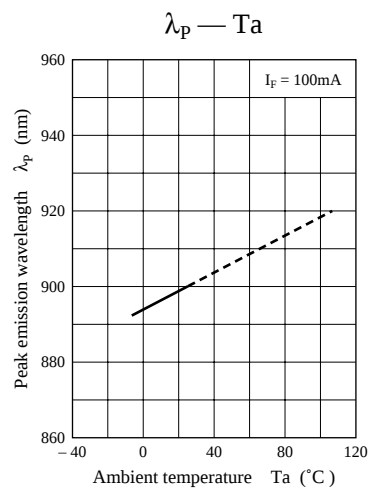
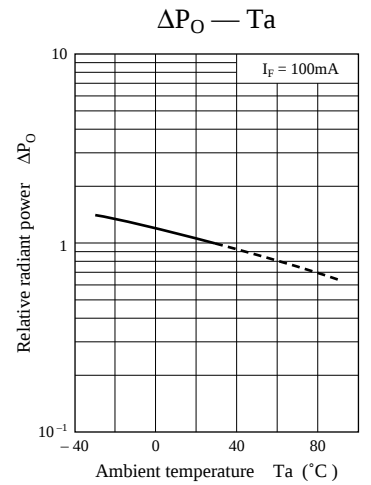
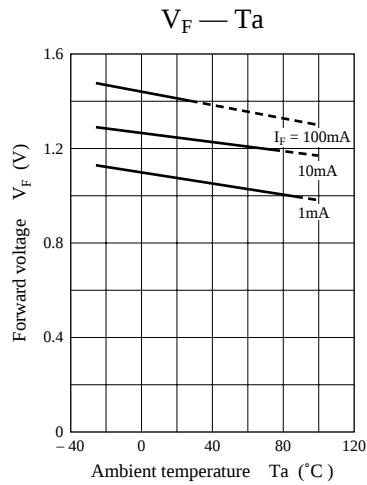
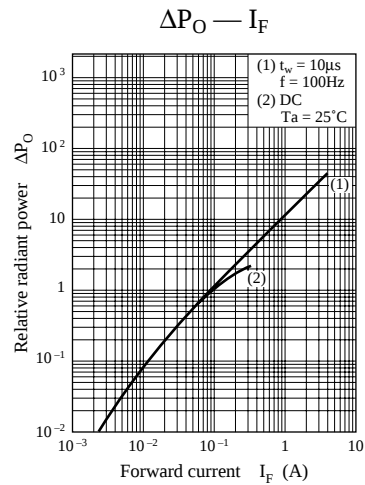
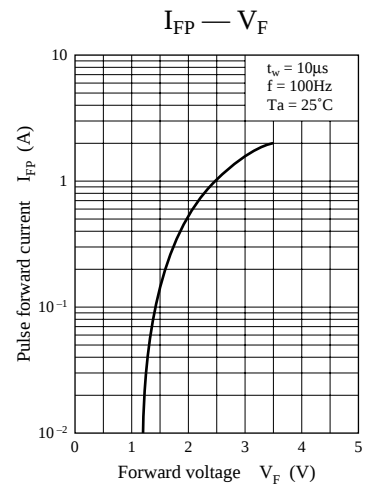
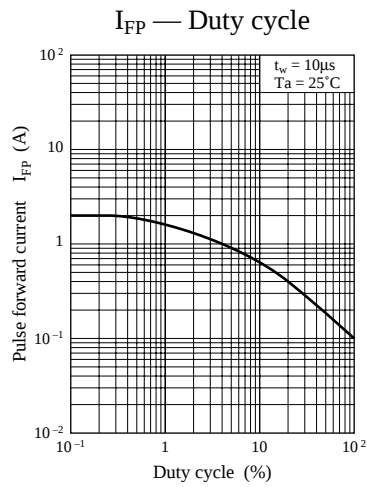
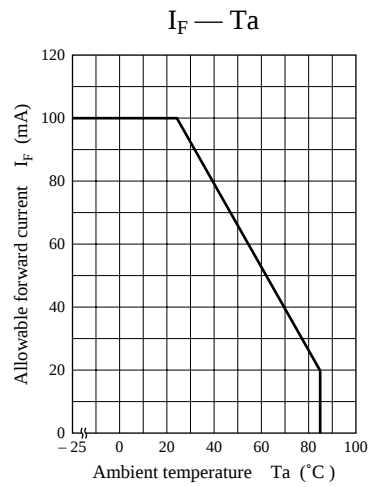
Parameter	Symbol	Ratings	Unit
Power dissipation	P_D	170	mW
Forward current (DC)	I_F	100	mA
Pulse forward current	I_{FP}^*	2	A
Reverse voltage (DC)	V_R	3	V
Operating ambient temperature	T_{opr}	-25 to +85	$^\circ\text{C}$
Storage temperature	T_{stg}	-30 to +100	$^\circ\text{C}$

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



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

Parameter	Symbol	Conditions	min	typ	max	Unit
Radiant power	P_O	$I_F = 100\text{mA}$	7	12		mW
Peak emission wavelength	λ_p	$I_F = 100\text{mA}$		900		nm
Spectral half band width	$\Delta\lambda$	$I_F = 100\text{mA}$		70		nm
Forward voltage (DC)	V_F	$I_F = 100\text{mA}$		1.4	1.7	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
Response time	t_r , t_f	$I_F = 100\text{mA}$		700		ns
Half-power angle	θ	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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