

LN184

GaAlAs Infrared Light Emitting Diode

Light source for distance measuring systems

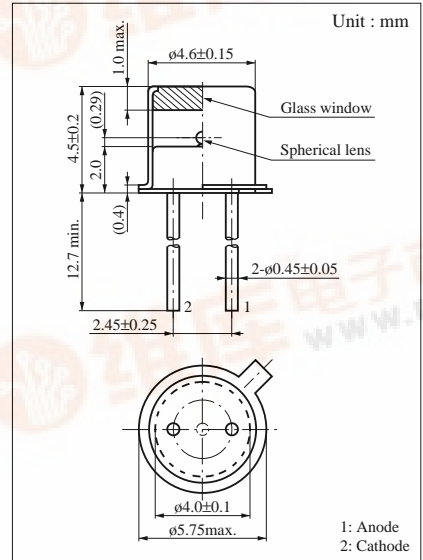
Features

- High-power output, high-efficiency : $P_O = 5 \text{ mW}$ (typ.)
- Fast response and high-speed modulation capability : $t_r, t_f = 20 \text{ ns}$ (typ.)
- Infrared light emission close to monochromatics light : $\lambda_p = 880 \text{ nm}$ (typ.)
- Narrow directivity using spherical lenses; works well with optical systems in auto focus systems

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

Parameter	Symbol	Ratings	Unit
Power dissipation	P_D	190	mW
Forward current (DC)	I_F	90	mA
Pulse forward current	I_{FP}^*	230	mA
Reverse voltage (DC)	V_R	3	V
Operating ambient temperature	T_{opr}	-25 to +85	$^\circ\text{C}$
Storage temperature	T_{stg}	-40 to +100	$^\circ\text{C}$

* Pulse conditions : Pulse of $f = 10 \text{ kHz}$ and duty cycle = 50% modulated with pulse of $f = 0.375 \text{ Hz}$ (1.6 s) and duty cycle = 37.5%



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			mW
Peak emission wavelength	λ_p	$I_F = 100\text{mA}$		880		nm
Spectral half band width	$\Delta\lambda$	$I_F = 100\text{mA}$		50		nm
Forward voltage (DC)	V_F	$I_F = 100\text{mA}$		1.55	1.9	V
Reverse current (DC)	I_R	$V_R = 3\text{V}$			10	μA
Rise time	t_r	$I_{FP} = 100\text{mA}$		20		ns
Fall time	t_f	$I_{FP} = 100\text{mA}$		20		ns
Half-power angle	θ	The angle in which radiant intensity is 50%		20		deg.

