

# LN184

## GaAlAs Infrared Light Emitting Diode

Light source for distance measuring systems

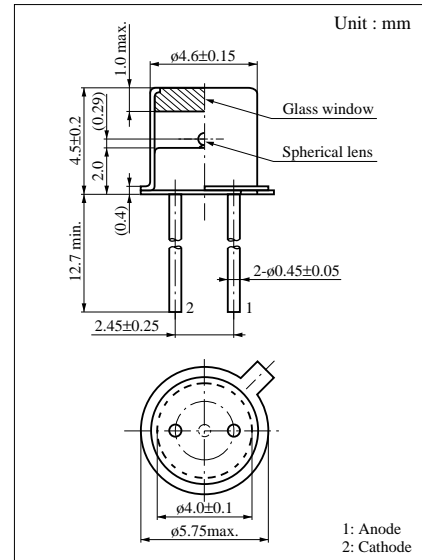
### ■ Features

- 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 monochromatic 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	$\lambda_p$	$I_F = 100\text{mA}$		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	$\mu\text{A}$
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	$\theta$	The angle in which radiant intensity is 50%		20		deg.

