

# LN151F, LN151L

## GaAs Infrared Light Emitting Diodes

For optical control systems

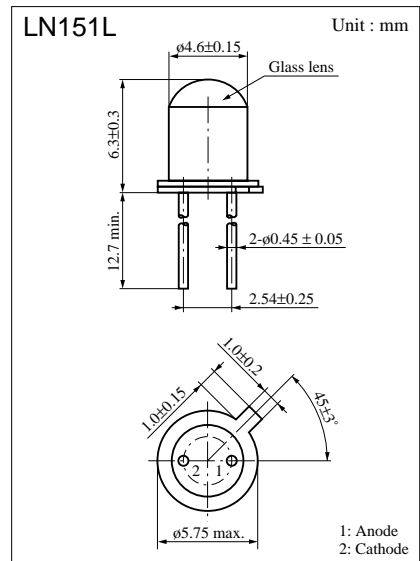
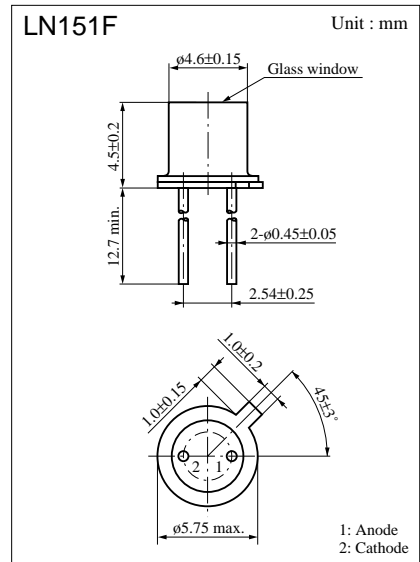
### ■ Features

- High-power output, high-efficiency :  $P_O = 7.5 \text{ mW}$  (typ.)
- Fast response and high-speed modulation capability :  
 $t_r, t_f = 1 \mu\text{s}$  (typ.)
- Infrared light emission close to monochromatic light :  
 $\lambda_p = 950 \text{ nm}$  (typ.)
- Narrow directivity, suitable for effective use of radiant power (LN151L)
- Wide directivity, matched for external optical systems (LN151F)
- TO-18 standard type package

### ■ Absolute Maximum Ratings (Ta = 25°C)

Parameter	Symbol	Ratings	Unit
Power dissipation	$P_D$	160	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 +100	°C
Storage temperature	$T_{stg}$	-30 to +100	°C

\* f = 100 Hz, Duty cycle = 0.1 %



### ■ Electro-Optical Characteristics (Ta = 25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Radiant power	$P_O$	$I_F = 100\text{mA}$	5	7.5		mW
Peak emission wavelength	$\lambda_p$	$I_F = 100\text{mA}$		950		nm
Spectral half band width	$\Delta\lambda$	$I_F = 100\text{mA}$		50		nm
Forward voltage (DC)	$V_F$	$I_F = 100\text{mA}$		1.3	1.6	V
Reverse current (DC)	$I_R$	$V_R = 3\text{V}$			10	$\mu\text{A}$
Capacitance between pins	$C_t$	$V_R = 0\text{V}, f = 1\text{MHz}$		60		pF
Rise time	$t_r$	$I_{FP} = 100\text{mA}$		1		$\mu\text{s}$
Fall time	$t_f$			1		$\mu\text{s}$
Half-power angle	LN151F	$\theta$	The angle in which radiant intensity is 50%	32		deg.
	LN151L			8		deg.

