

LN59, LN59L

GaAs Bi-directional Infrared Light Emitting Diodes

For light source of VCR (VHS System)

■ Features

- Two-way directivity
- High-power output, high-efficiency : $P_O = 1.8 \text{ mW}$ (min.)
- Small resin package
- Long lifetime, high reliability
- Long lead-wire type (LN59L)

■ Application

- Light source for tape end sensor of VCR and video camera recorder of VHS system
- Light source for 2-bit photo sensor

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

Parameter	Symbol	Ratings	Unit
Power dissipation	P_D	75	mW
Forward current (DC)	I_F	50	mA
Pulse forward current	I_{FP}^*	1	A
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	$^\circ\text{C}$

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

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

Parameter	Symbol	Conditions	min	typ	max	Unit
Radiant power	P_O^*	$I_F = 50\text{mA}$	1.8			mW
Peak emission wavelength	λ_p	$I_F = 20\text{mA}$		950		nm
Spectral half band width	$\Delta\lambda$	$I_F = 20\text{mA}$		50		nm
Forward voltage (DC)	V_F	$I_F = 50\text{mA}$		1.3	1.5	V
Reverse current (DC)	I_R	$V_R = 3\text{V}$			10	μA
Capacitance between pins	C_t	$V_R = 0\text{V}$, $f = 1\text{MHz}$		35		pF

* Optical power output P_O shows each value of radiant flux P1 and P2 in two directions.



