

Infrared light emitting diode, top view type

SIR-568ST3F

The SIR-568ST3F has the response speed and luminous output necessary for image transmission in audio-visual applications. It can support almost all types of optical transmission through air, including audio and data transmission. The luminous output is 13 mW and the cutoff frequency is 50 MHz.

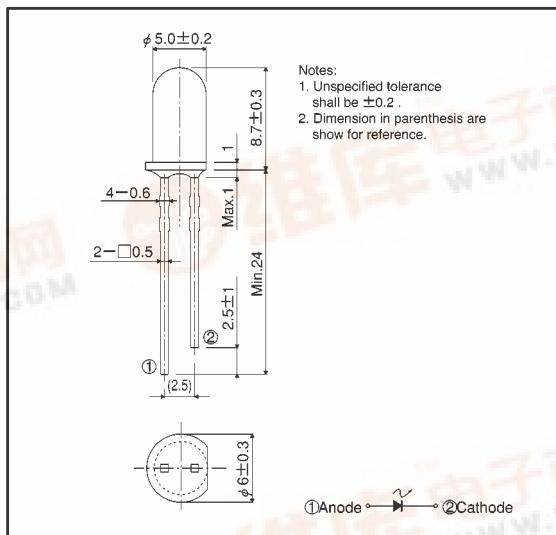
● Applications

Transmission of images from a video cassette recorder to a television.

Transmission of audio signals between audio devices.

High speed data transmission.

● External dimensions (Units: mm)



● Features

- 1) High luminous output 13 mW.
- 2) Fast response is possible 50 MHz cutoff frequency.

● Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Limits	Unit
Forward current	I _F	100	mA
Reverse voltage	V _R	4.0	V
Power dissipation	P _D	230	mW
Pulse forward current	I _{FP} *	1.0	A
Operating temperature	T _{opr}	-25~+85	°C
Storage temperature	T _{stg}	-40~+85	°C

* Pulse width = 0.1 msec, duty ratio 1%

● Electrical and optical characteristics ($T_a = 25^\circ C$)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Optical output	P_o	—	13	—	mW	$I_F=50mA$
Emitting strength	I_E	18	38	—	mW/sr	$I_F=50mA$
Forward voltage	V_F	—	1.6	2.1	V	$I_F=50mA$
Reverse current	I_R	—	—	10	μA	$V_R=2V$
Peak light emitting wavelength	λ_P	—	850	—	nm	$I_F=20mA$
Spectral line half width	$\Delta \lambda$	—	40	—	nm	$I_F=20mA$
Half-viewing angle	$\theta_{1/2}$	—	± 13	—	deg	$I_F=50mA$
Response time	Rise time	tr	—	8.0	—	ns $I_F=50mA$
	Fall time	tf	—	6.0	—	ns $I_F=50mA$
Cut-off frequency	fc	—	50	—	MHz	$I_F=30mA$ DC+20mA p-p

● Electrical and optical characteristic curves

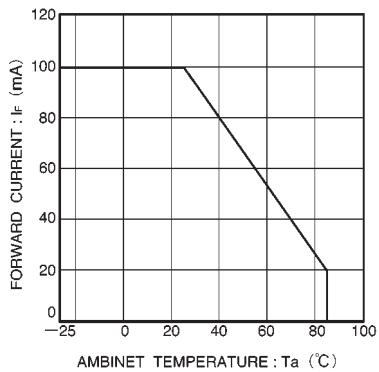


Fig. 1 Forward current falloff

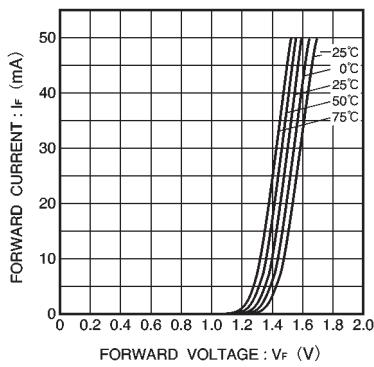


Fig. 2 Forward current vs. forward voltage

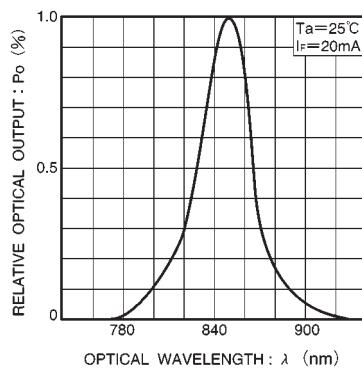


Fig. 3 Wavelength characteristics

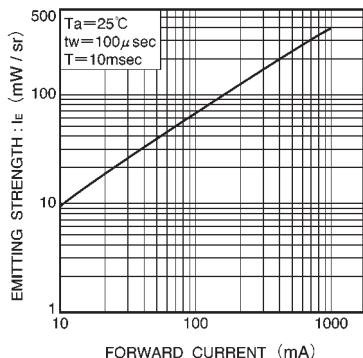


Fig. 4 Emitting strength vs. forward current

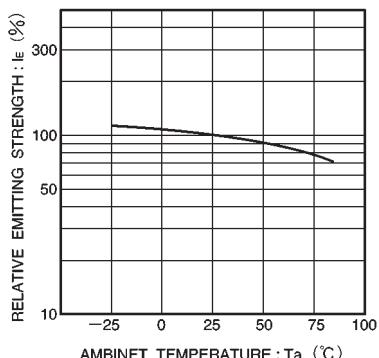


Fig. 5 Relative emitting strength vs. ambient temperature

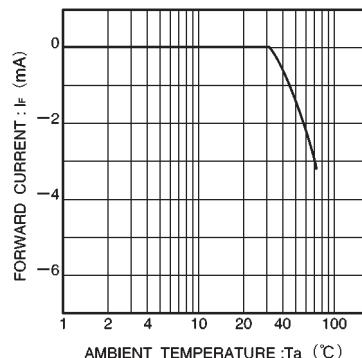


Fig. 6 Frequency characteristics
