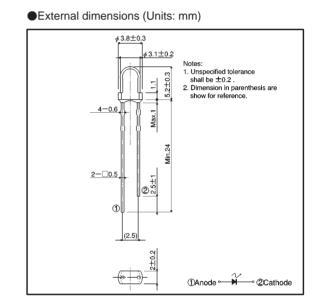
Infrared light emitting diode, top view type SIR-320ST3F

The SIR-320ST3F is a GaAs infrared light emitting diode housed in clear plastic. This device has a high luminous efficiency and a 940 nm spectrum suitable for silicon detectors. It is small and at the same time has a wide radiation angle, making it ideal for compact optical control equipment.

Applications
Optical control equipment
Light source for remote control devices

Features

- 1) Compact (\$3.1 mm).
- 2) High efficiency, high output $P_0 = 9.0 \text{ mW}$ (I_F = 50 mA).
- 3) Wide radiation angle $\theta = \pm 18^{\circ}$.
- 4) Emission spectrum well suited to silicon detectors $(\lambda_P = 940 \text{ nm}).$
- 5) Good current-optical output linearity.
- 6) Long life, high reliability.
- 7) Low cost, clear epoxy resin package.



• Absolute maximum ratings (Ta = 25° C)

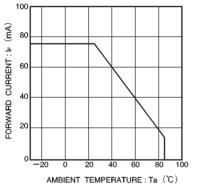
Parameter	Symbol	Limits	Unit
Forward current	lf	75	mA
Reverse voltage	VR	5	V
Power dissipation	PD	100	mW
Pulse forward current	FP*	1.0	А
Operating temperature	Topr	-25~+85	ĉ
Storage temperature	Tstg	-40~+85	°C

* Pulse width = 0.1 msec, duty ratio 1%

Electrical and optical characteristics (Ta = 25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Optical output	Po	_	9.0	_	mW	I⊧=50mA
Emitting strength	le	5.6	_	_	mW/sr	I⊧=50mA
Forward voltage	VF	_	1.2	1.5	V	I⊧=50mA
Reverse current	IR	_	_	10	μA	V _R =3V
Peak light emitting wavelength	λP	_	940		nm	I⊧=50mA
Spectral line half width	Δλ	_	40	_	nm	I⊧=50mA
Half-viewing angle	H 1/2	_	±18	_	deg	I⊧=50mA
Response time	tr∙tf	_	1.0	_	μs	I⊧=50mA
Cut-off frequency	fc	_	1.0	_	MHz	I⊧=50mA

Electrical and optical characteristic curves



Flg. 1 Forward current falloff

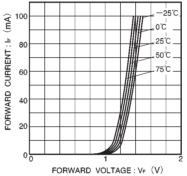


Fig. 2 Forward current vs. forward voltage

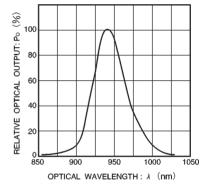
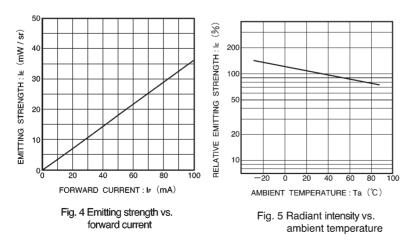


Fig. 3 Wavelength





Directional pattern

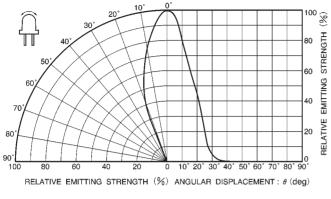


Fig. 6 Directional pattern

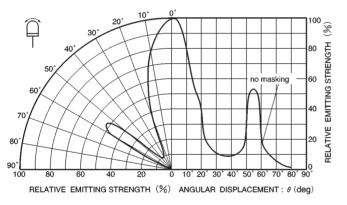


Fig. 7 Directional pattern