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

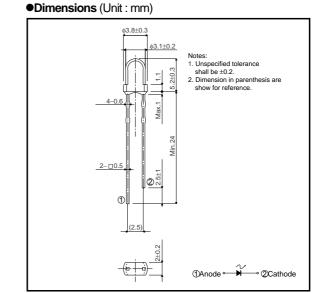
The SIR-320ST3F is a GaAs infrared light emitting diode housed in clear plastic. This device has a high luminous efficiency and a 940nm spectrum suitable for silicon detectors. It is small and at the same time has a wide radiation angle, marking it ideal for compact optical control equipment.

#### Applications

Optical control equipment Light source for remote control devices

#### Features

- 1) Compact (\phi3.1mm).
- 2) High efficiency, high output Po=9.0mW (IF=50mA).
- 3) Wide radiation angle  $\theta = \pm 18$  deg.
- 4) Emission spectrum well suited to silicon detectors (λp=940nm).
- 5) Good current-optical output linearity.
- 6) Long life, high reliability.



#### • Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Limits	Unit
Forward current	lF	75	mA
Reverse voltage	VR	5	V
Power dissipation	Po	100	mW
Pulse forward current	IFP*	0.5	А
Operating temperature	Topr	-25 to +85	°C
Storage temperature	Tstg	-40 to +85	°C

\* Pulse width=0.1msec, duty ratio 1%

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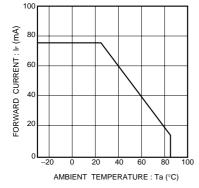
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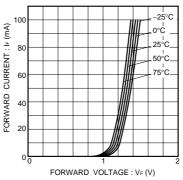
### Sensors

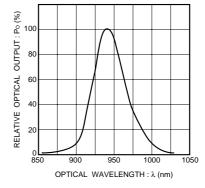
#### •Electrical and optical characteristics (Ta = $25^{\circ}$ C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Optical output	Po	-	9	-	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	VR=3V
Peak light emitting wavelength	λΡ	-	940	-	nm	I⊧=50mA
Spectral line half width	Δλ	-	40	-	nm	I⊧=50mA
Half-viewing angle	θ1/2	-	±18	-	deg	I⊧=50mA
Pesponse 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

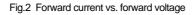
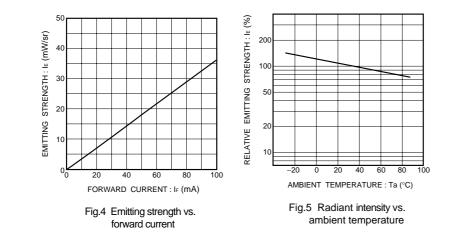


Fig.3 Wavelength



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## Sensors

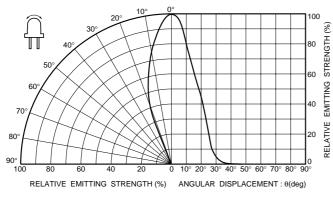


Fig.6 Directional pattern

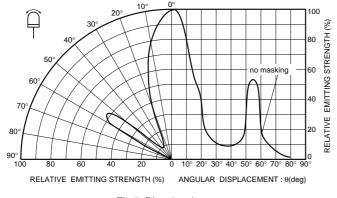


Fig.7 Directional pattern

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