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# Infrared light emitting diode, top view type SIR-34ST3F

The SIR-34ST3F is a GaAs infrared light emitting diode housed in clear plastic. This device has a high luminous efficiency and a 950nm 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.

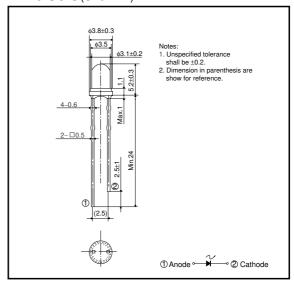
#### Applications

Optical control equipment Light source for remote control devices

#### Features

- 1) Compact (\$\phi 3.1mm).
- 2) High efficiency, high output Po=8.0mW (I==50mA).
- 3) Wide radiation angle  $\theta$ =27°.
- 4) Emission spectrum well suited to silicon detectors ( $\lambda P=950$ nm).
- 5) Good current-optical output linearity.
- 6) Long life, high reliability.

## ●Dimensions (Unit:mm)



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

Parameter	Symbol	Limits	Unit
Forward current	lF	100	mA
Reverse voltage	VR	5	V
Power dissipation	Po	160	mW
Pulse forward current	IFP*	0.5	А
Operating temperature	Topr	-25 to +85	°C
Storage temperature	Tstg	-40 to +85	°C

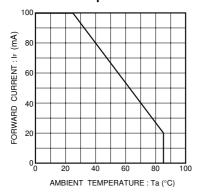
<sup>\*</sup> Pulse width=0.1msec, duty ratio 1%

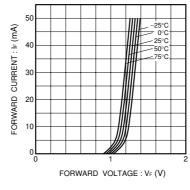


# ●Electrical and optical characteristics (Ta = 25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Optical output	Po	_	8.0	_	mW	I==50mA
Emitting strength	le	3.5	-	17.6	mW/sr	I==50mA
Forward voltage	VF	-	1.3	1.6	٧	I <sub>F</sub> =100mA
Reverse current	IR	-	_	10	μΑ	V <sub>R</sub> =3V
Peak light emitting wavelength	λР	_	950	_	nm	I==50mA
Spectral line half width	Δλ	_	40	_	nm	I==50mA
Half-viewing angle	θ1 / 2	-	±27	_	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





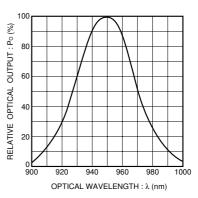


Fig.1 Forward current falloff

Fig.2 Forward current vs. forward voltage

Fig.3 Wavelength

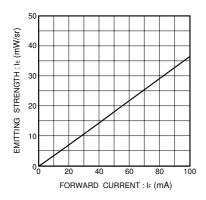


Fig.4 Emitting strength vs. forward current

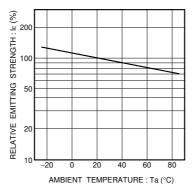


Fig.5 Relative emitting strength vs.ambient temperature

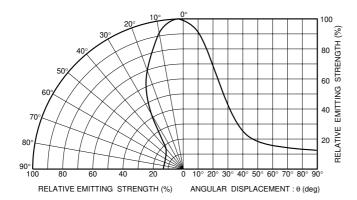


Fig.6 Directional pattern

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