Infrared light emitting diode, top view type SIR-563ST3F

The SIR-563ST3F is a GaAs infrared light emitting diode housed in clear plastic. This device has a high luminous efficiency and a 940 nm peak wavelength suitable for silicon detectors. It has a wide radiation angle and is ideal for compact optical control equipment.

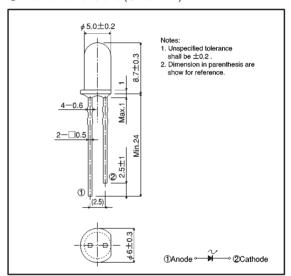
Applications

Optical control equipment Light source for remote control devices

Features

- High efficiency, high output Po = 11.0 mW (I_F = 50 mA).
- 2) Wide radiation angle θ 1 / 2 = 15deg.
- 3) Emission spectrum well suited to silicon detectors $(\lambda_P = 940 \text{ nm}).$
- 4) Good current-optical output linearity.
- 5) Long life, high reliability.
- 6) Low cost, clear epoxy resin package.

External dimensions (Units: mm)



● Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Limits	Unit
Forward current	le	100	mA
Reverse voltage	VR	5	V
Power dissipationt	P□	160	mW
Pulse forward current	IFP*	1.0	Α
Operating temperature	Topr	-25~+85	°C
Storage temperature	Tstg	− 40~+85	°C

^{*} Pulse width = 0.1 msec, duty ratio 1%

Sensors SIR-563ST3F

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

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Optical output	Po	_	11	_	mW	I==50mA
Emitting strength	lE	9.0	21	_	mW/sr	I==50mA
Forward voltage	VF	_	1.34	1.6	٧	I==50mA
Reverse current	lR	_	_	10	μΑ	V _R =3V
Peak light emitting wavelength	λp	_	940	_	nm	I==50mA
Spectral line half width	Δλ	_	40	_	nm	I==50mA
Half-viewing angle	θ 1/2	_	±15	_	deg	I==50mA
Response time	tr • tf	_	1.0	_	μS	l⊧=50mA
Cut-off frequency	fc	_	1.0	_	MHz	l⊧=50mA

Electrical and optical characteristic curves

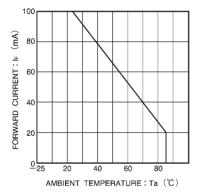


Fig. 1 Forward current

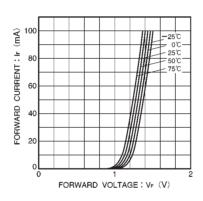


Fig.2 Forward current vs. forward voltage

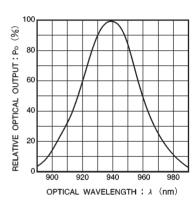


Fig.3 Wavelength

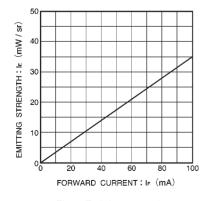


Fig. 4 Emitting strength vs. forward current

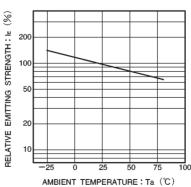


Fig.5 Relative emitting strength vs. ambient temperature

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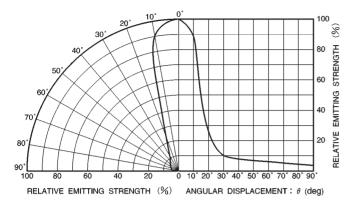


Fig. 6 Directional pattern