

Infrared light emitting diode, top view type

SIR-341ST3F

The SIR-341ST3F is a GaAs infrared light emitting diode housed in clear plastic. This device has a high luminous efficiency and a 940nm peak wavelength 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.

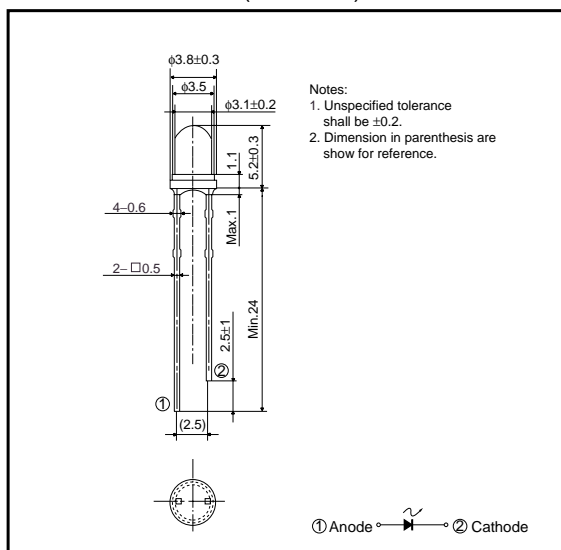
●Applications

Optical control equipment
Light source for remote control devices

●Features

- 1) Compact ($\phi 3.1$ mm).
- 2) High efficiency, high output $P_O=8.4$ mW ($I_F=50$ mA).
- 3) Wide radiation angle $\theta 1/2=\pm 16$ deg.
- 4) Peak wavelength well suited to silicon detectors ($\lambda_P=940$ nm).
- 5) Good current-optical output linearity.
- 6) Long life, high reliability.

●External dimensions (Units : mm)



●Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Limits	Unit
Forward current	I_F	75	mA
Reverse voltage	V_R	5	V
Power dissipation	P_D	100	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=0.1msec, duty ratio 1%

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Optical output	P _o	-	8.4	-	mW	I _F =50mA
Emitting strength	I _E	5.6	18.1	-	mW/sr	I _F =50mA
Forward voltage	V _F	-	1.3	1.5	V	I _F =50mA
Reverse current	I _R	-	-	10	μA	V _R =3V
Peak light emitting wavelength	λ _P	-	940	-	nm	I _F =50mA
Spectral line half width	Δλ	-	40	-	nm	I _F =50mA
Half-viewing angle	θ _{1/2}	-	±16	-	deg	I _F =50mA
Response time	tr-tf	-	1.0	-	μs	I _F =50mA
Cut-off frequency	f _c	-	1.0	-	MHz	I _F =50mA

●Electrical and optical characteristic curves

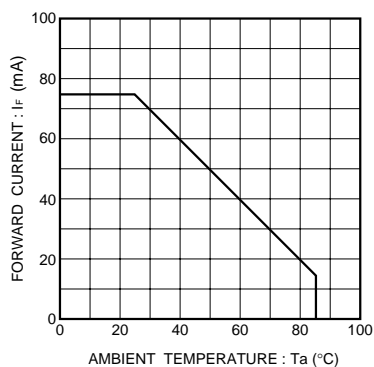


Fig.1 Forward current falloff

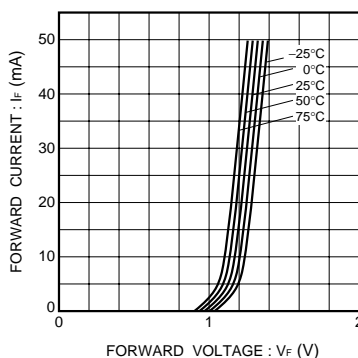


Fig.2 Forward current vs. forward voltage

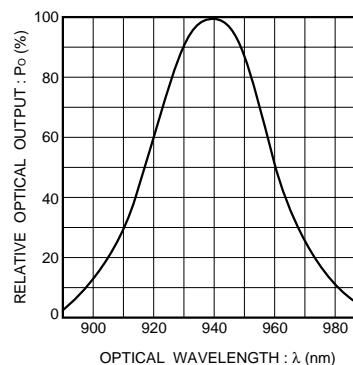


Fig.3 Wavelength

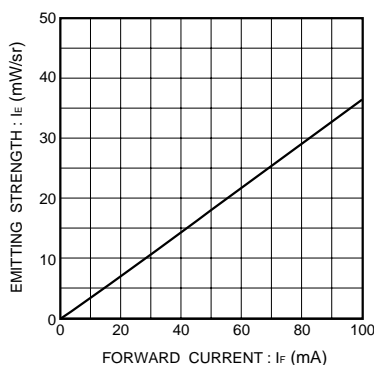


Fig.4 Emitting strength vs. forward current

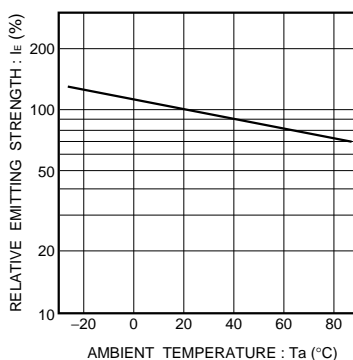


Fig.5 Relative emitting strength vs.ambient temperature

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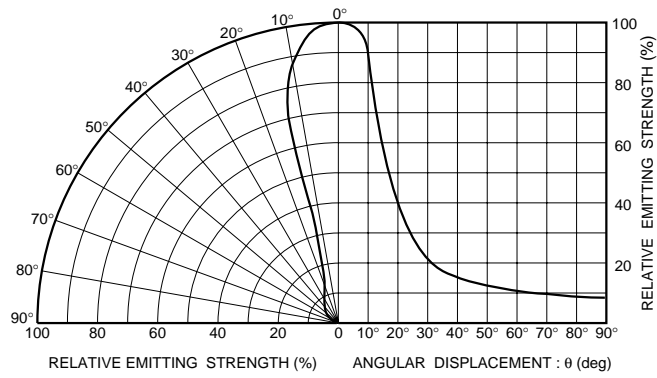


Fig.6 Directional pattern

Appendix

Notes

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