

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.

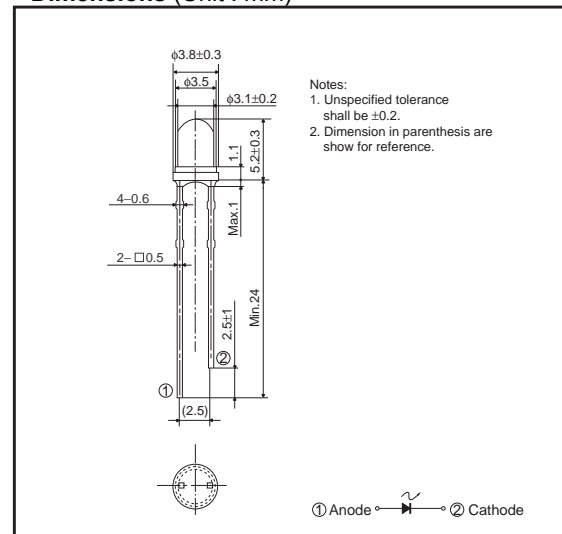
●Applications

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.

●Dimensions (Unit : 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}^*	500	mA
Operating temperature	T_{opr}	-25 to +85	°C
Storage temperature	T_{stg}	-40 to +85	°C

* Pulse width=0.1msec, duty ratio 1%

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Optical output	P_O	-	8.4	-	mW	$I_F=50$ mA
Emitting strength	I_E	5.6	18.1	-	mW/sr	$I_F=50$ mA
Forward voltage	V_F	-	1.3	1.5	V	$I_F=50$ mA
Reverse current	I_R	-	-	10	μ A	$V_R=3$ V
Peak light emitting wavelength	λ_P	-	940	-	nm	$I_F=50$ mA
Spectral line half width	$\Delta\lambda$	-	40	-	nm	$I_F=50$ mA
Half-viewing angle	$\theta_{1/2}$	-	± 16	-	deg	$I_F=50$ mA
Response time	$tr \cdot tf$	-	1.0	-	μ s	$I_F=50$ mA
Cut-off frequency	f_c	-	1.0	-	MHz	$I_F=50$ mA

●Electrical and optical characteristic curves

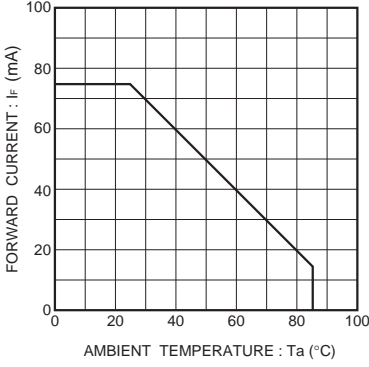


Fig.1 Forward current falloff

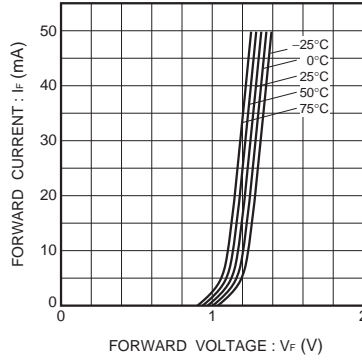


Fig.2 Forward current vs. forward voltage

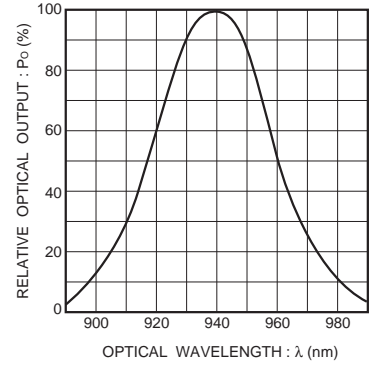


Fig.3 Wavelength

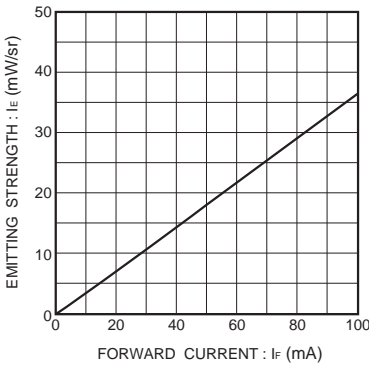


Fig.4 Emitting strength vs. forward current

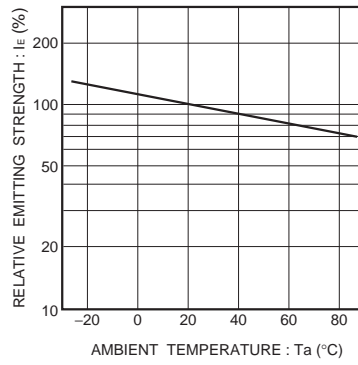


Fig.5 Relative emitting strength vs.ambient temperature

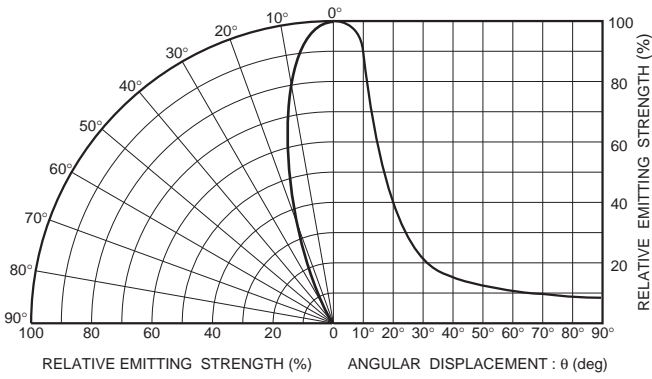


Fig.6 Directional pattern

Notes

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