

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

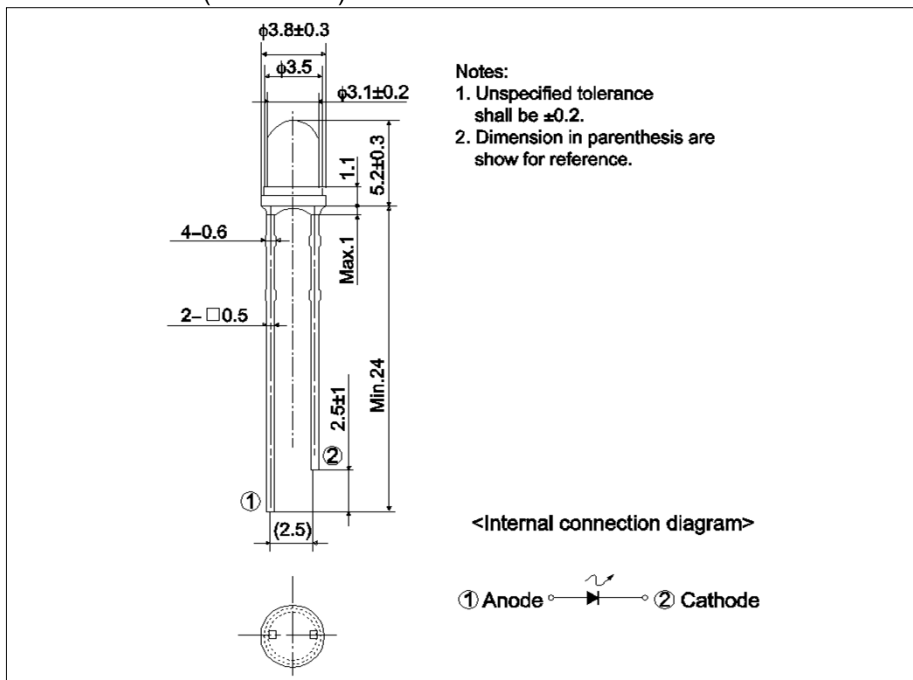
### ●Features

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

### ●Outline



### ●Dimensions (Unit : mm)



### ●Absolute maximum ratings ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Value	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	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-40 to +85	$^\circ\text{C}$

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

**●Electrical and optical characteristics (T<sub>a</sub> = 25°C)**

Parameter	Symbol	Conditions	Values			Unit
			Min.	Typ.	Max.	
Optical output	P <sub>O</sub>	I <sub>F</sub> = 50mA	-	8.4	-	mW
Emitting strength	I <sub>E</sub>	I <sub>F</sub> = 50mA	5.6	18.1	-	mW/sr
Forward voltage	V <sub>F</sub>	I <sub>F</sub> = 50mA	-	1.3	1.5	V
Reverse current	I <sub>R</sub>	V <sub>R</sub> = 3V	-	-	10	μA
Peak light emitting wavelength	λ <sub>p</sub>	I <sub>F</sub> = 50mA	-	940	-	nm
Spectral line half width	Δλ	I <sub>F</sub> = 50mA	-	40	-	nm
Half-viewing angle	θ <sub>1/2</sub>	I <sub>F</sub> = 50mA	-	±16	-	deg
Response time	tr·tf	I <sub>F</sub> = 50mA	-	1.0	-	μs
Cut-off frequency	f <sub>C</sub>	I <sub>F</sub> = 50mA	-	1.0	-	MHz

**●Classified table of rank**

Item	Emitting Strength : I <sub>E</sub>	Unit
L	5.6 to 11.7	mW / sr
M	8.2 to 17.6	mW / sr
N	12.3 to 25.8	mW / sr
P	18.0 to 38.8	mW / sr

 © Condition I<sub>F</sub> = 50mA

●Electrical and optical characteristics curves

Fig.1 Forward Current Falloff

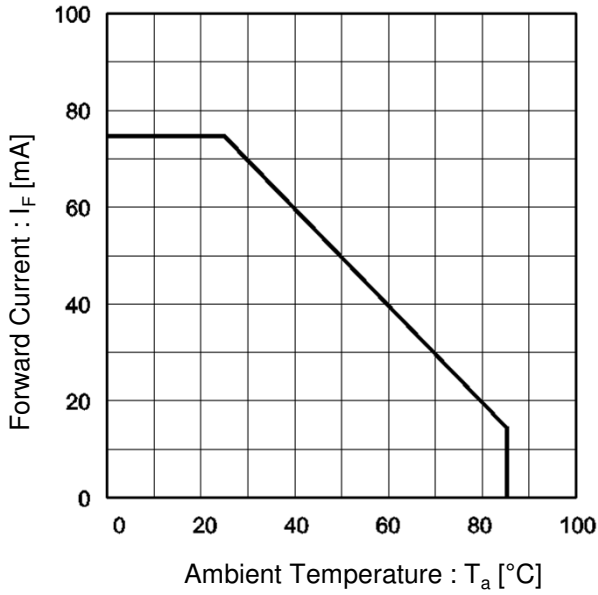


Fig.2 Forward Current vs. Forward Voltage

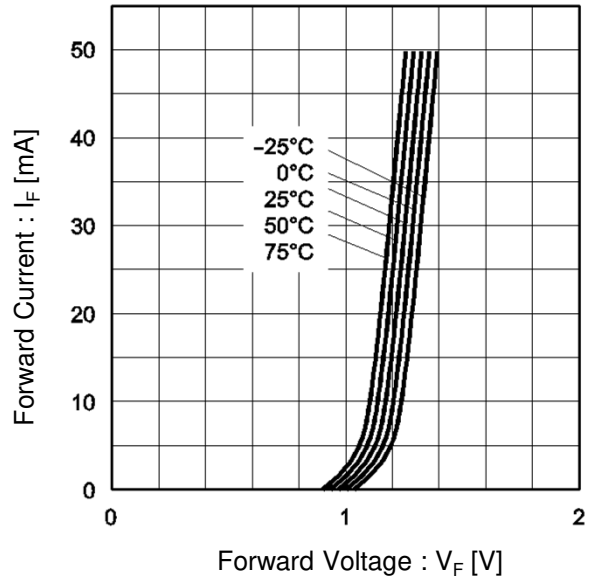


Fig.3 Wavelength

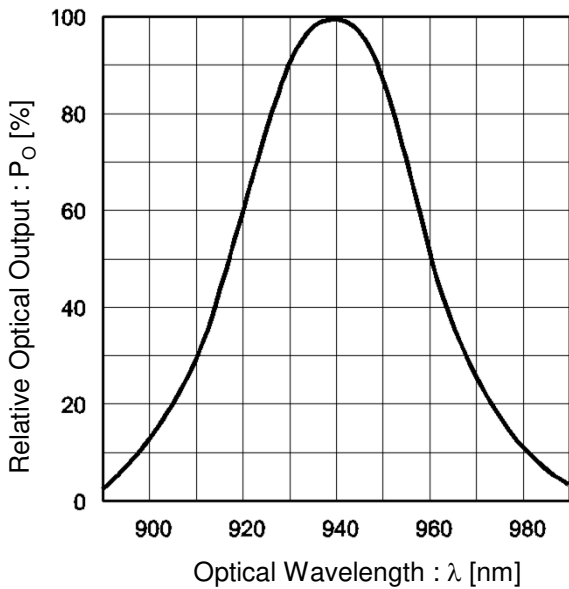
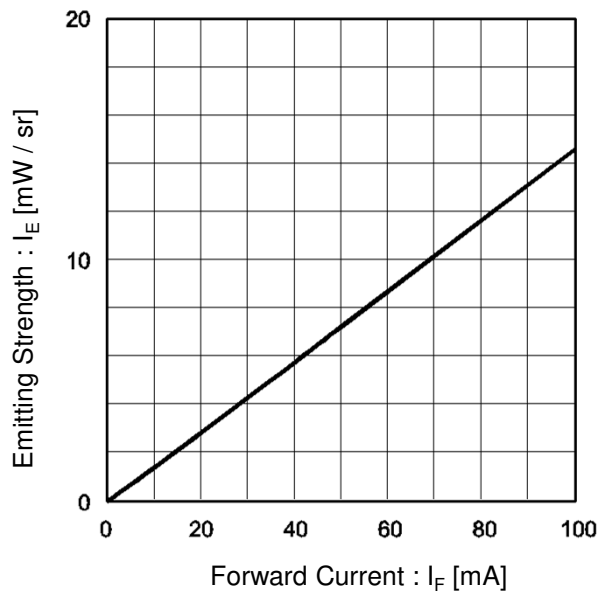


Fig.4 Emitting Strength vs. Forward Current



●Electrical and optical characteristics curves

Fig.5 Relative Emitter Strength vs. Ambient Temperature

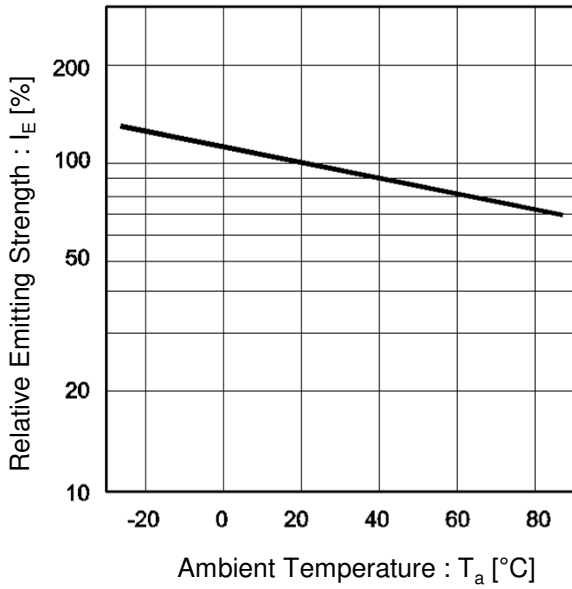
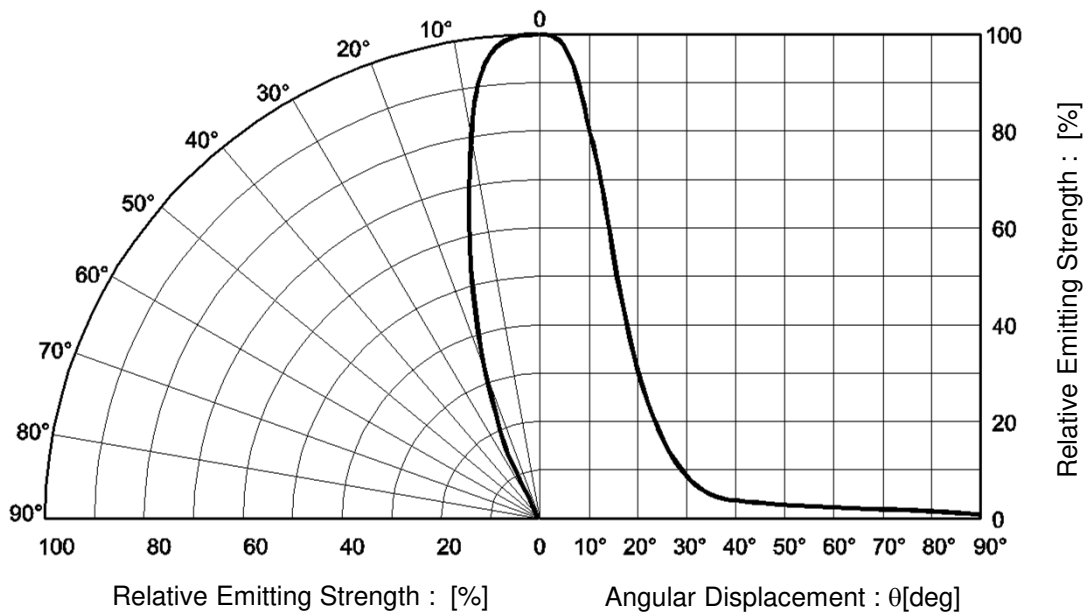


Fig.6 Directional Pattern



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