

The SIM-22ST is a GaAs infrared light emitting diode housed in side emission.

High output with $\phi 1.5$ lens.

●Applications

- Light source for sensors

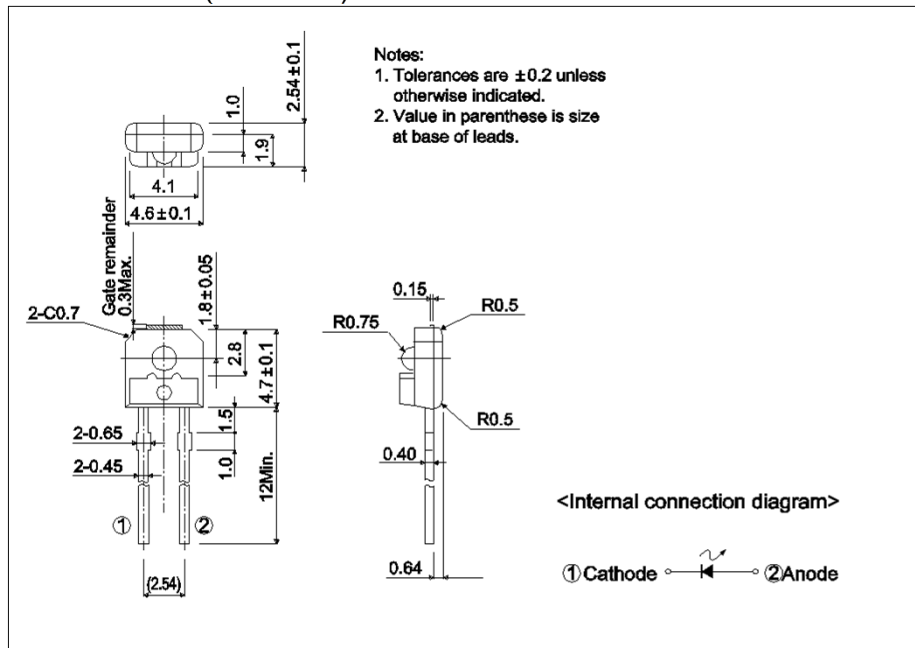
●Features

- 1) Compact package (4.7x4.6mm) with lens.
- 2) High efficiency, high output.
- 3) Emission spectrum well suited to silicon detectors ($\lambda_P = 950$ nm).
- 4) Good current-optical output linearity.
- 5) 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	50	mA
Reverse voltage	V_R	5	V
Power dissipation	P_D	80	mW
Pulse forward current	I_{FP}^*	500	mA
Operating temperature	T_{opr}	-25 to +85	$^\circ\text{C}$
Storage temperature	T_{stg}	-30 to +100	$^\circ\text{C}$

*Pulse width = 0.1 ms, duty ratio 1%

●Electrical and optical characteristics ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Conditions	Values			Unit
			Min.	Typ.	Max.	
Emitting strength I	$I_E I$	$I_F = 10\text{mA}$	-	0.8	-	mW/sr
Emitting strength II	$I_E II$	$I_F = 10\text{mA}^*$	0.48	1.3	1.94	mA
Forward voltage	V_F	$I_F = 50\text{mA}$	-	1.3	1.6	V
Reverse current	I_R	$V_R = 5\text{V}$	-	-	10	μA
Peak light emitting wavelength	λ_p	$I_F = 10\text{mA}$	-	950	-	nm
Spectral line half width	$\Delta\lambda$	$I_F = 20\text{mA}$	-	40	-	nm
Half-viewing angle	$\theta_{1/2}$	$I_F = 50\text{mA}$	-	± 30	-	deg
Response time	tr·tf	$I_F = 50\text{mA}$	-	1.0	-	μs
Cut-off frequency	f_C	$I_F = 50\text{mA}$	-	1.0	-	MHz

*According to our measurement procedures.

●Classified table of rank

Item	Emitting Strength : $I_E II$	Unit
L	0.48 to 0.78	mA
M	0.64 to 1.06	mA
N	0.86 to 1.43	mA
Q	1.17 to 1.70	mA
R	1.39 to 1.94	mA

© Condition $I_F = 10\text{mA}$

●Electrical and optical characteristics curves

Fig.1 Forward Current Falloff

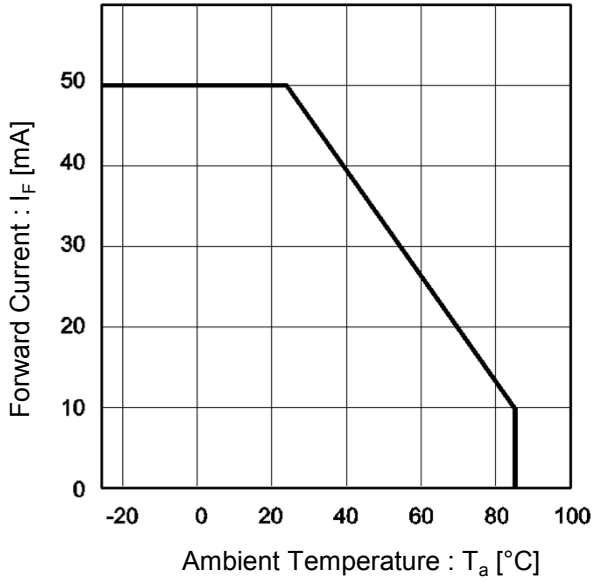


Fig.2 Forward Current vs. Forward Voltage

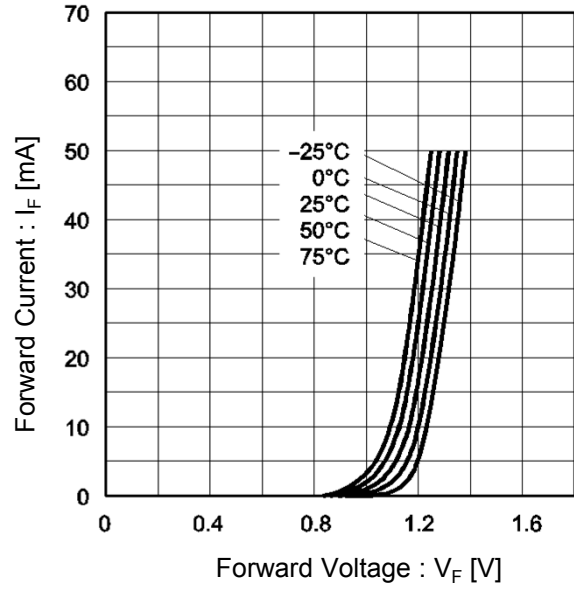


Fig.3 Emitter Strength vs. Forward Current

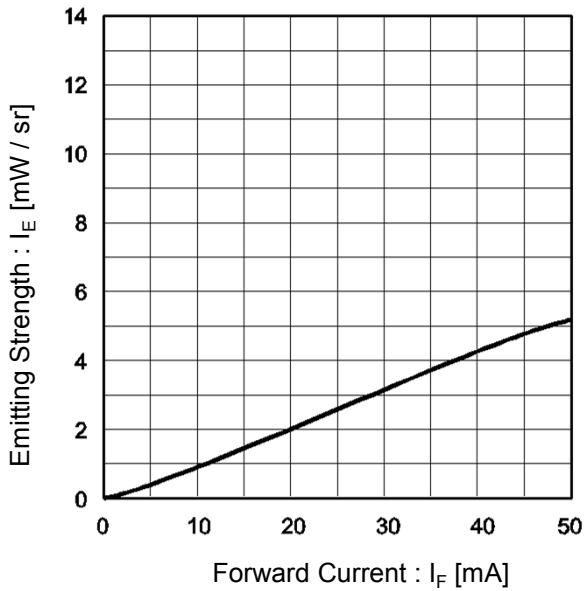
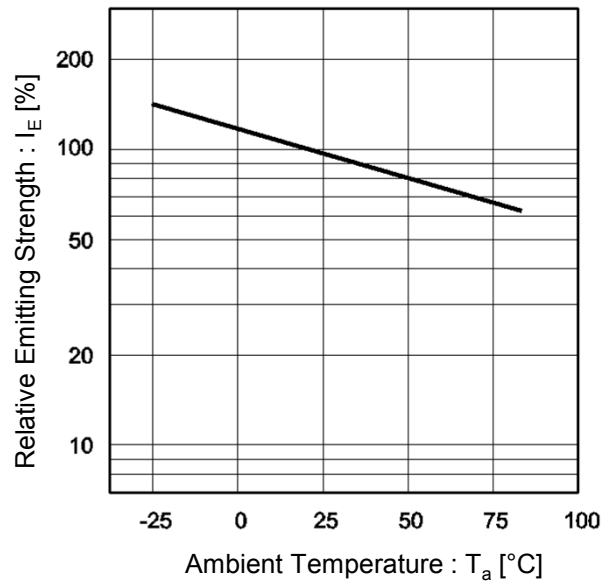


Fig.4 Relative Emitter Strength vs. Ambient Temperature



●Electrical and optical characteristics curves

Fig.5 Wavelength

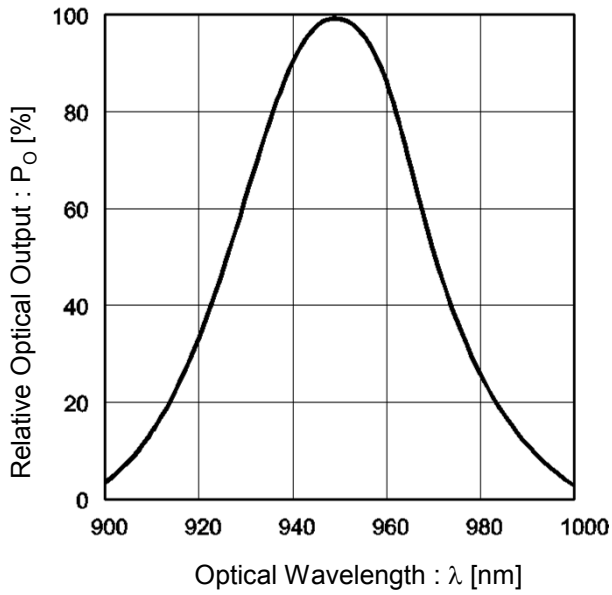
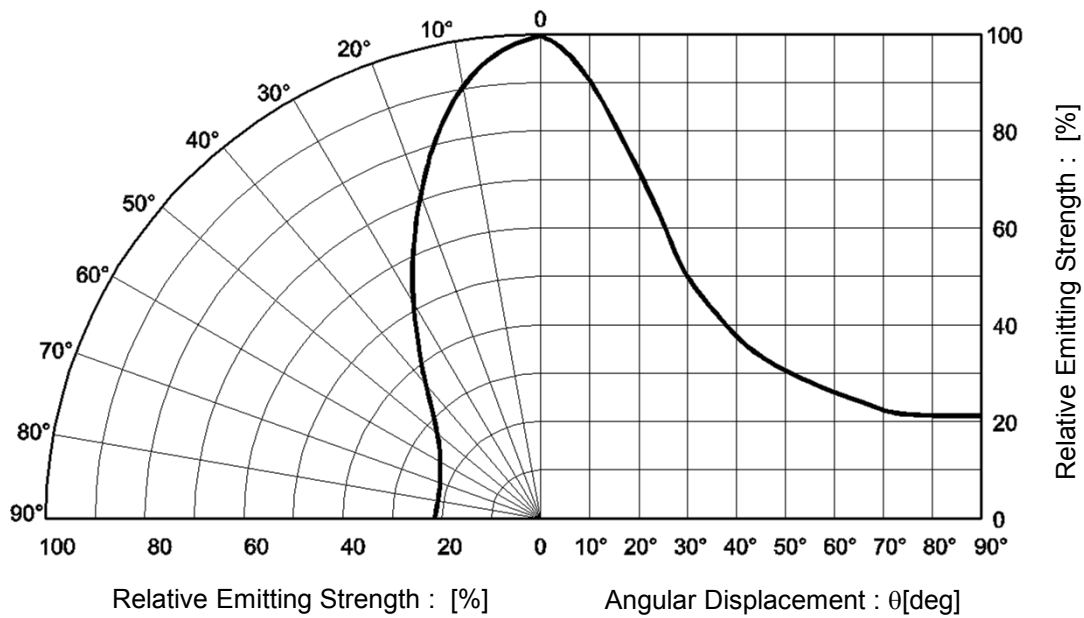


Fig.6 Directional Pattern



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