

# High power Chip IR LED, side view type

## SIM-012SB

The SIM-012SB is ultra small size and high power chip sensor. Original technology, original structure and original Optical design enable to use Automatic mounting machine, Reflow, ultra small size, High power.

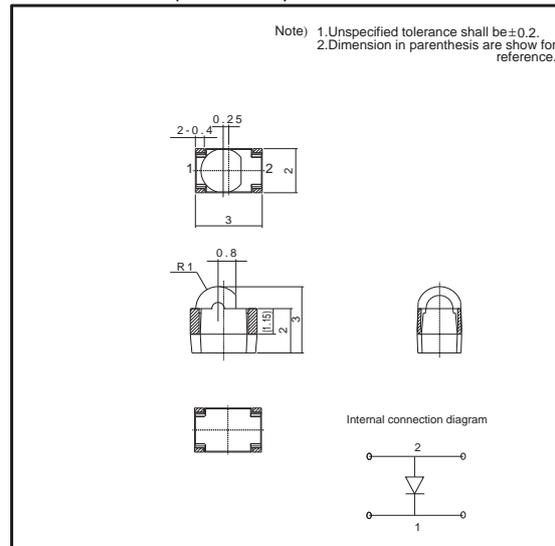
### ●Applications

Optical control equipment  
Light source for remote control devices

### ●Features

- 1) High power by  $\phi 2$  lenze.
- 2) Emitting pore can have 7time high power then substruk type with parabola structure.
- 3) Ultra -compact surface mount package.  
(3mmx3mmx2mm)
- 4) It is possible to do Reflow.

### ●Dimensions (Unit : mm)



### ●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Forward current	$I_F$	40	mA
Reverse voltage	$V_R$	5	V
Power dissipation	$P_D$	60	mW
Pulse forward current	$I_{FP}^*$	0.5	A
Operating temperature	$T_{opr}$	-30~+85	°C
Storage temperature	$T_{stg}$	-40~+100	°C

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

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Optical output	$P_O$	-	3.5	-	mW	$I_F=20mA$
Emitting strength	$I_E$	0.9	-	7.1	mW/sr	$I_F=20mA$
Forward voltage	$V_F$	-	1.2	1.5	V	$I_F=20mA$
Reverse current	$I_R$	-	-	10	$\mu A$	$V_R=3V$
Peak light emitting wavelength	$\lambda_P$	-	950	-	nm	$I_F=20mA$
Spectral line half width	$\Delta\lambda$	-	40	-	nm	$I_F=20mA$
Half-viewing angle	$\theta_{1/2}$	-	$\pm 12$	-	deg	$I_F=20mA$
Response time	$tr \cdot tf$	-	1.0	-	$\mu s$	$I_F=20mA$
Cut-off frequency	$f_c$	-	1.0	-	MHz	$I_F=20mA$

●Electrical and optical characteristic curves

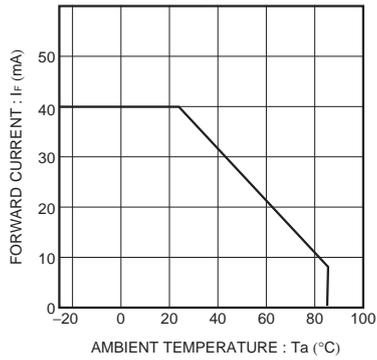


Fig.1 Forward current falloff

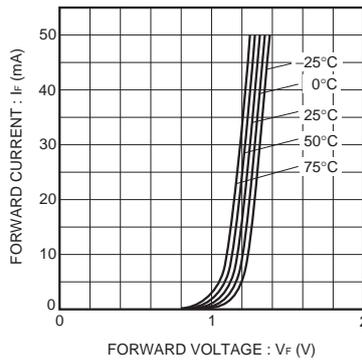


Fig.2 Forward current vs. forward voltage

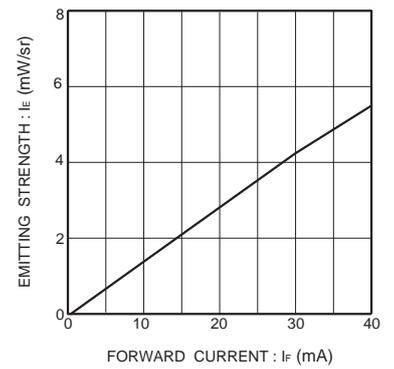


Fig.3 Emitting strength vs. forward current

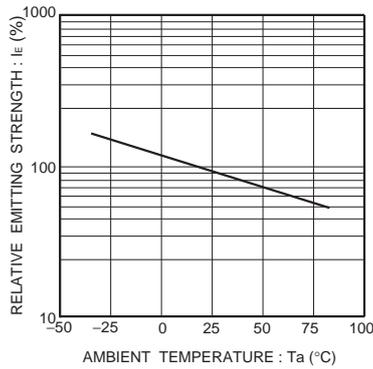


Fig.4 Relative emitting strength vs.ambient temperature

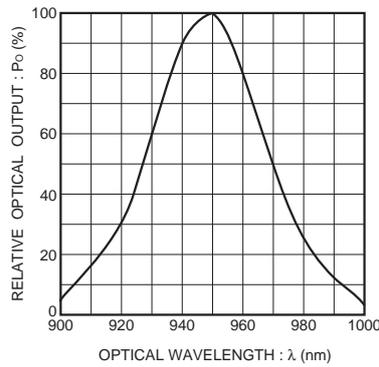


Fig.5 Wavelength

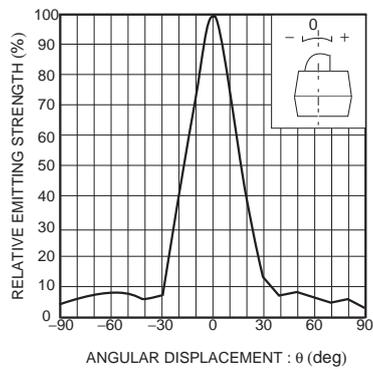


Fig.6 Directional pattern(1)

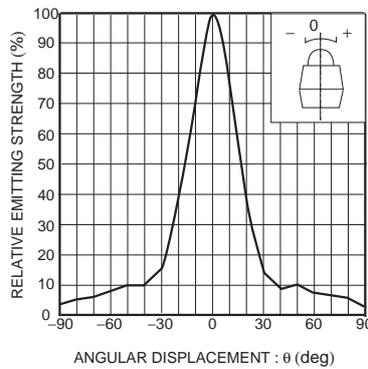


Fig.7 Directional pattern(2)

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