

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.

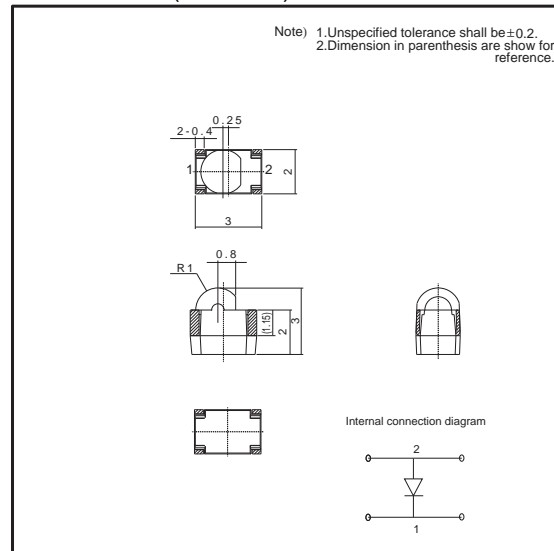
●Applications

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	μA	$V_R=3V$
Peak light emitting wavelength	λ_P	-	950	-	nm	$I_F=20mA$
Spectral line half width	$\Delta\lambda$	-	40	-	nm	$I_F=20mA$
Half-viewing angle	$\theta_{1/2}$	-	± 12	-	deg	$I_F=20mA$
Response time	$tr \cdot tf$	-	1.0	-	μs	$I_F=20mA$
Cut-off frequency	f_c	-	1.0	-	MHz	$I_F=20mA$

●Electrical and optical characteristic curves

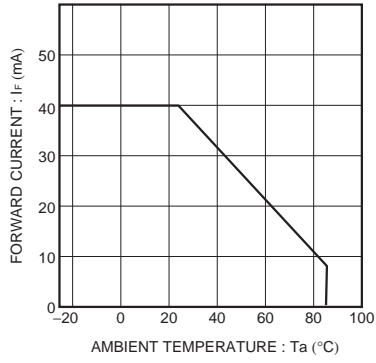


Fig.1 Forward current falloff

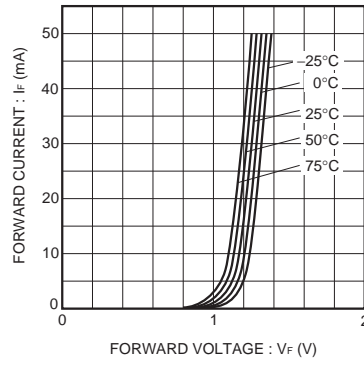


Fig.2 Forward current vs. forward voltage

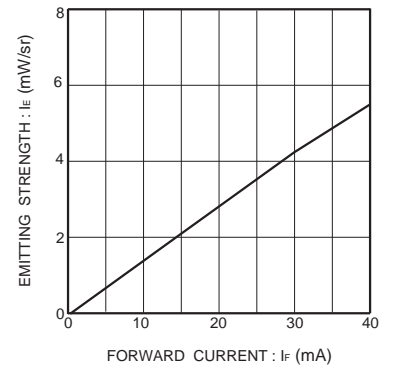


Fig.3 Emitting strength vs. forward current

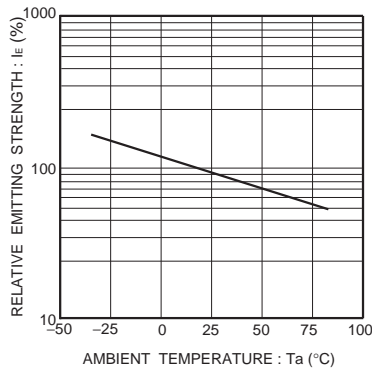


Fig.4 Relative emitting strength vs. ambient temperature

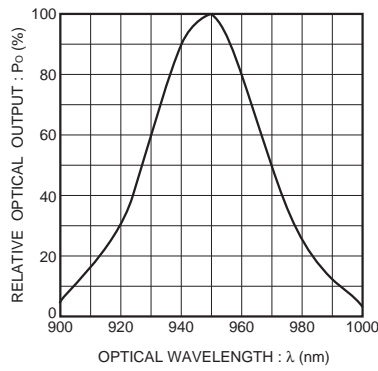


Fig.5 Wavelength

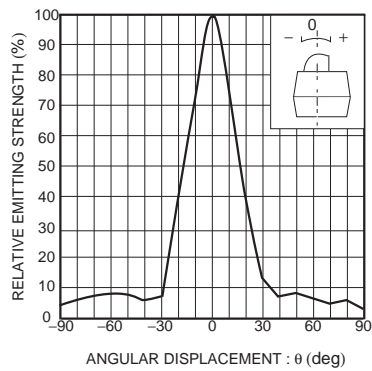


Fig.6 Directional pattern(1)

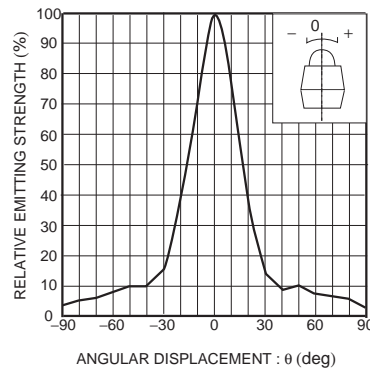


Fig.7 Directional pattern(2)

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