Infrared light emitting diode, side-view type

SIM-22ST

The SIM-22ST is a GaAs infrared light emitting diode housed in side emission. High output with ϕ1.5 lens.

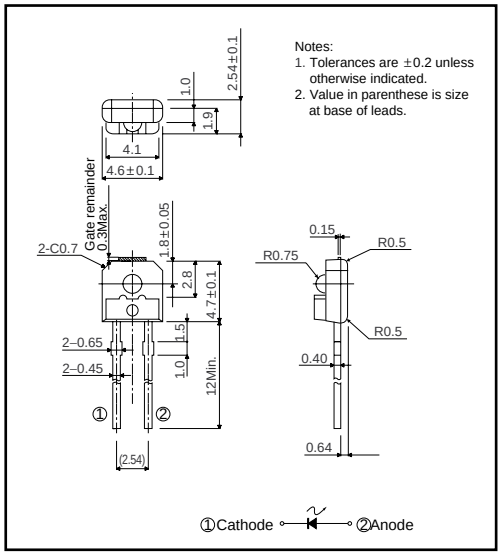
●Applications

Light source for sensors

●Features

1) Compact package (4.7x4.6 mm) with lens.
2) High efficiency, high output.
3) Emission spectrum well suited to silicon detectors (λ_P = 950 nm).
4) Good current-optical output linearity.
5) Long life, high reliability.

●Dimensions (Unit : mm)



●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Forward current	I_F	50	mA
Reverse voltage	V_R	5	V
Power dissipation	P_D	80	mW
Pulse forward current	I_{FP}*	0.5	A
Operating temperature	Topr	−25 to +85	°C
Storage temperature	Tstg	−30 to +100	°C

✻ Pulse width = 0.1ms, duty ratio 1%

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Emitting strength Ⅰ	I_EⅠ	–	0.8	–	mW/sr	I_F=10mA
Emitting strength Ⅱ	I_EⅡ	0.5	1.3	2.08	mA	I_F=10mA*
Forward voltage	V_F	–	1.3	1.6	V	I_F=50mA
Reverse current	I_R	–	–	10	μA	V_R=5V
Peak light emitting wavelength	λ_P	–	950	–	nm	I_F=10mA
Spectral line half width	Δλ	–	40	–	nm	I_F=20mA
Half-viewing angle	$\theta_{1/2}$	–	±30	–	deg	I_F=50mA
Response time	tr・tf	–	1.0	–	μs	I_F=50mA
Cut-off frequency	fc	–	1.0	–	MHz	I_F=50mA

✻ According to our measurement procedures.

●Electrical and optical characteristic curves

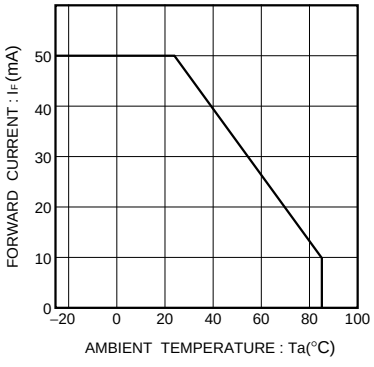


Fig.1 Forward current falloff

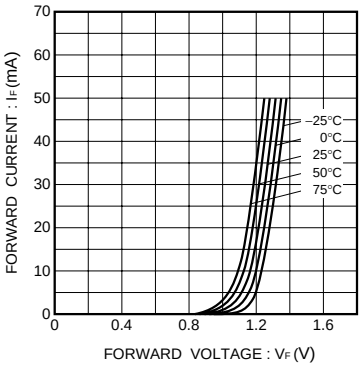


Fig.2 Forward current vs. forward voltage

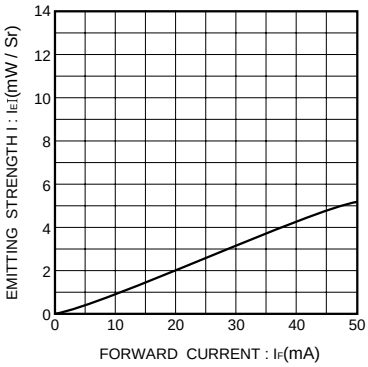


Fig.3 Emitting strength Ⅰ vs. forward current

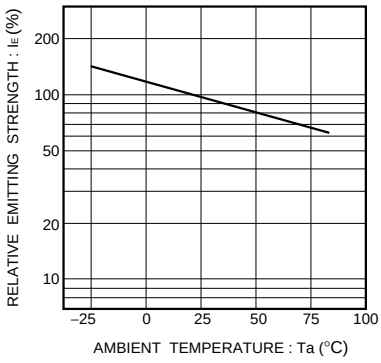


Fig.4 Relative emitting strength vs. ambient temperature

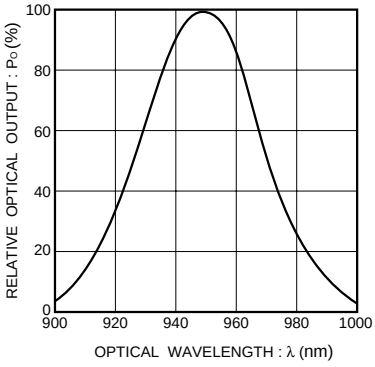


Fig.5 Wavelength

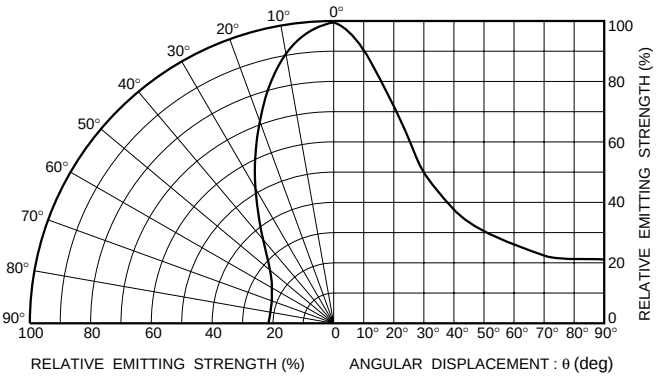


Fig. 6 Directional pattern

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