

SIM-20SB

GaAs infrared light-emitting diode

This infrared GaAs LED is housed in a compact, transparent plastic housing. It has a 1.85 mm diameter lens and radiates at a wavelength of 950 nm making it suitable for silicon light detectors. Matched with the RPM-20PB light detector.

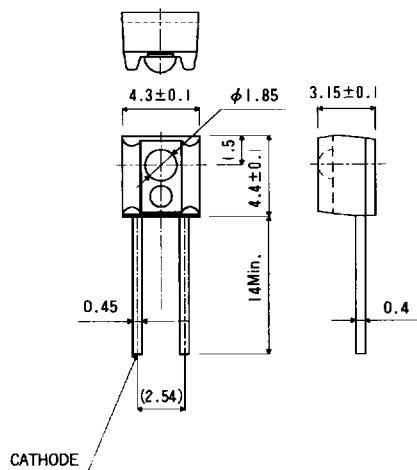
Features

- compact, 4.4×4.3 mm with side mounted lens
- high efficiency and output, $P_O = 6.5$ mW at 50 mA
- linear current-to-light output characteristics
- long life and high reliability

Applications

- light source for sensors

Dimensions (Units : mm)



Selection guide

SIM-20SB	standard
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Absolute maximum ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Limits	Unit
Power dissipation	P_D	80	mW
Forward current	I_F	50	mA
Reverse voltage	V_R	5	V
Operating temperature	T_{opr}	$-25 \sim +85$	$^\circ\text{C}$
Storage temperature	T_{stg}	$-30 \sim +100$	$^\circ\text{C}$

Electro-optical characteristics ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Min	Typical	Max	Unit	Conditions
Optical power	P_O		6.5		mW	$I_F = 50\text{ mA}$
Emission power	I_E	3.2			mW/sr	$I_F = 50\text{ mA}$
Peak wavelength	λ_p		950		nm	$I_F = 50\text{ mA}$
Half width	$\Delta\lambda$		40		nm	$I_F = 50\text{ mA}$
Forward voltage	V_F		1.25	1.5	V	$I_F = 50\text{ mA}$
Reverse current	I_R			10	μA	$V_R = 3\text{ V}$
Capacitance between terminals	C_T		50		pF	$f = 1\text{ MHz}, V = 0$
Half angle	$\theta_{1/2}$		± 15		deg	
Response time	tr,tf		1		μs	$I_F = 50\text{ mA}$

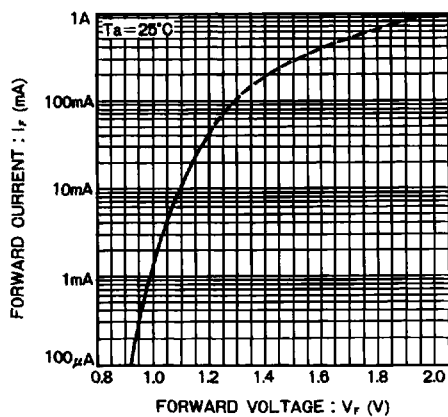


Figure 1

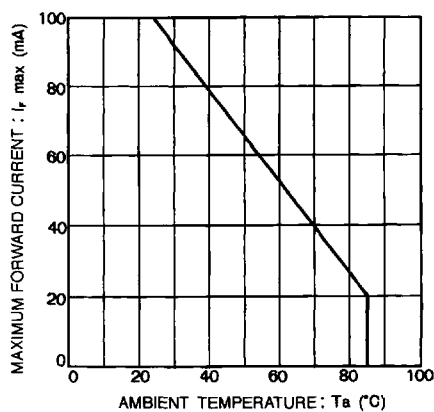


Figure 2

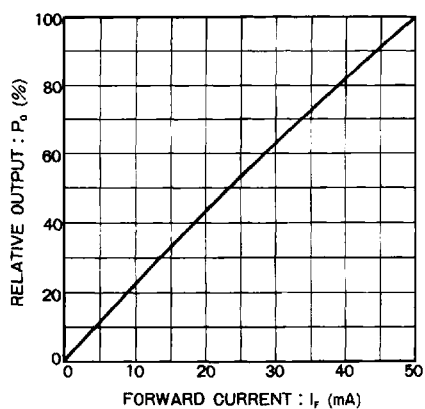


Figure 3

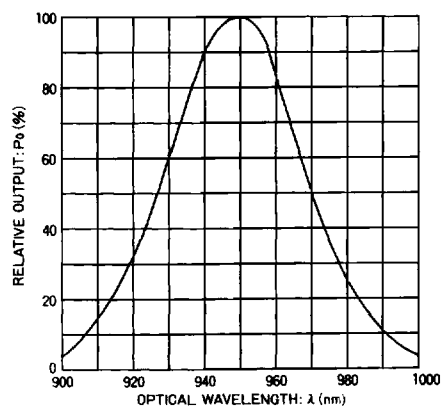


Figure 4

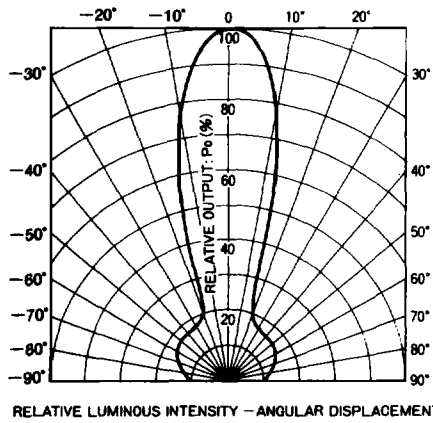


Figure 5