

Infrared light emitting diode, top view type

SIR-505STA47

The SIR-505STA47 is optimal for tape-end sensors in VTR's and other equipment. It can be directly mounted on a printed circuit board.

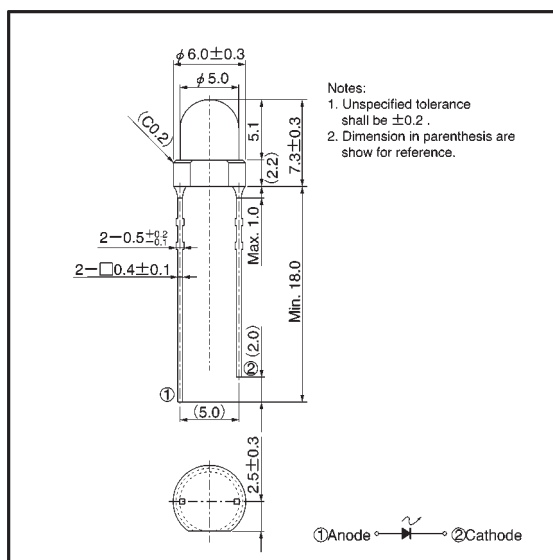
●Applications

VCR's, Optical control equipment

●Features

- 1) $\phi 5$ mm plastic package.
- 2) Direct-mount type.
- 3) Long life and high reliability.

●External dimensions (Units: mm)



●Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Limits	Unit
Forward current	I_F	100	mA
Reverse voltage	V_R	5	V
Power dissipation	P_D	160	mW
Pulse forward current	I_{FP}^*	1.0	A
Operating temperature	T_{opr}	-25~+85	°C
Storage temperature	T_{stg}	-40~+85	°C

* Pulse width=0.1 msec, duty ratio 1%

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Optical output	P _o	—	8.0	—	mW	I _F =50mA
Emitting strength	I _E	5.6	10.0	25.7	mW/sr	I _F =50mA
Forward voltage	V _F	—	1.38	1.6	V	I _F =100mA
Reverse current	I _R	—	—	10	μA	V _R =3V
Peak light emitting wavelength	λ _P	—	950	—	nm	I _F =50mA
Spectral line half width	Δλ	—	40	—	nm	I _F =50mA
Half-viewing angle	θ _{1/2}	—	±15	—	deg	I _F =50mA
Response time	t _r · t _f	—	1.0	—	μs	I _F =50mA
Cut-off frequency	f _c	—	1.0	—	MHz	I _F =50mA

●Electrical and optical characteristic curves

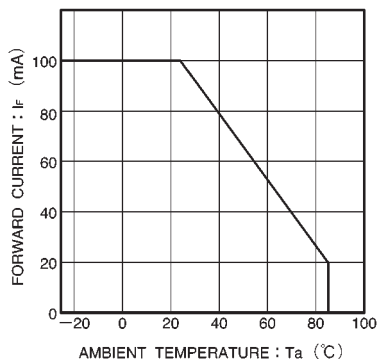


Fig.1 Forward current falloff

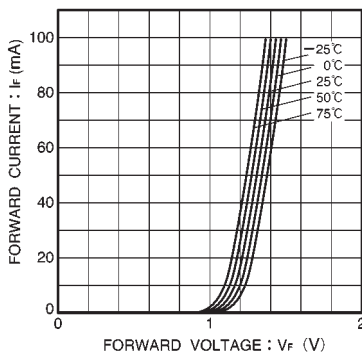


Fig.2 Forward current vs. forward voltage

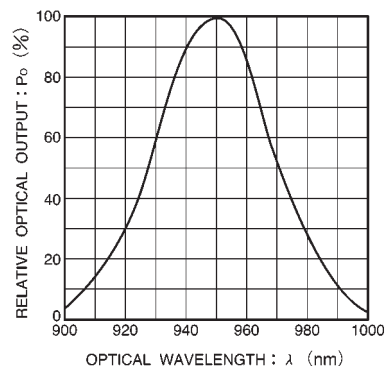


Fig.3 Wavelength characteristics

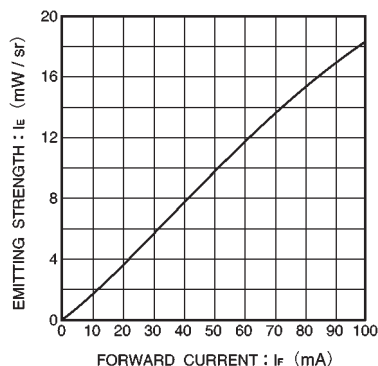


Fig.4 Emitting strength vs. forward current

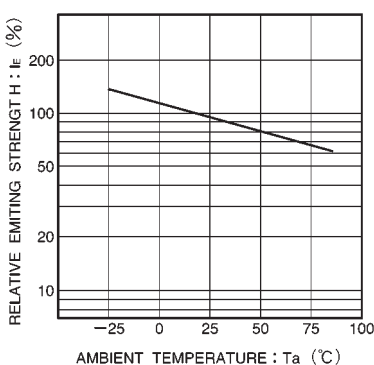


Fig. 5 Relative emitting strength vs. ambient temperature

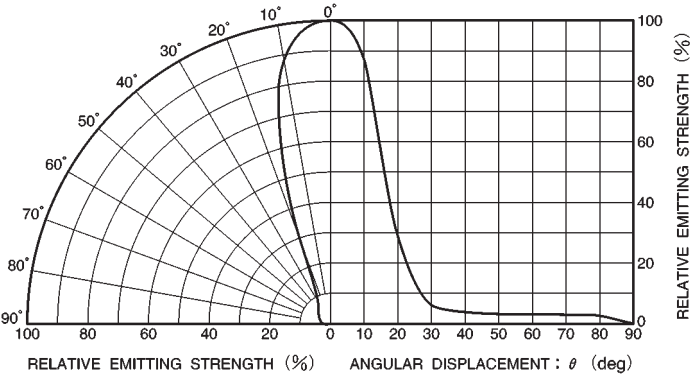


Fig. 6 Directional pattern