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.

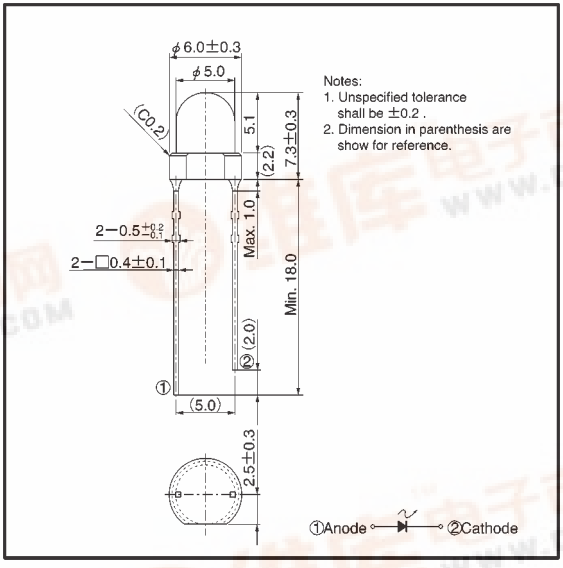
●Applications

VCR's, Optical control equipment

●Features

1) ϕ5 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	Topr	−25～+85	℃
Storage temperature	Tstg	−40～+85	℃

* 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	$\Delta\lambda$	—	40	—	nm	I_F=50mA
Half-viewing angle	$\theta_{1/2}$	—	±15	—	deg	I_F=50mA
Response time	tr・tf	—	1.0	—	μs	I_F=50mA
Cut-off frequency	fc	—	1.0	—	MHz	I_F=50mA

●Electrical and optical characteristic curves

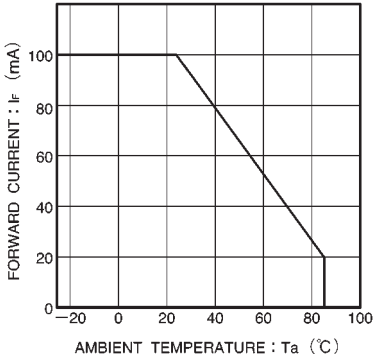


Fig.1 Forward current falloff

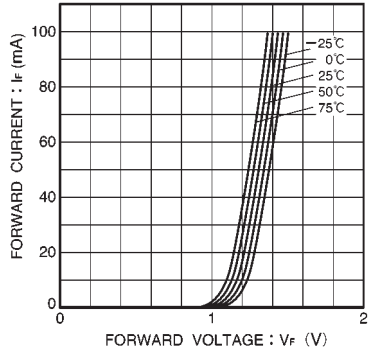


Fig.2 Forward current vs. forward voltage

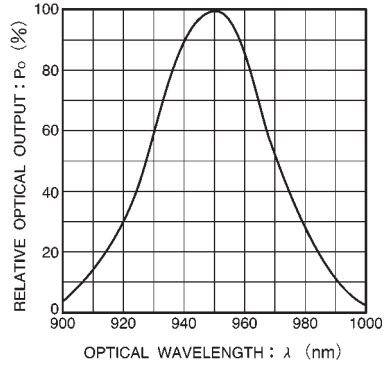


Fig.3 Wavelength characteristics

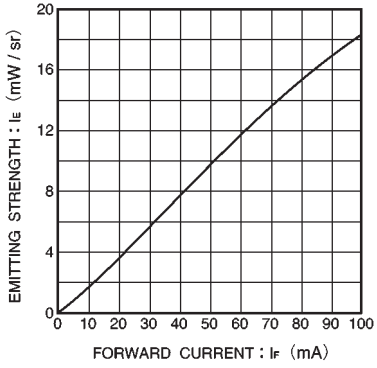


Fig.4 Emitting strength vs. forward current

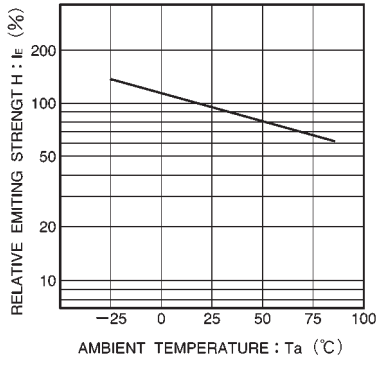


Fig. 5 Relative emitting strength vs. ambient temperature

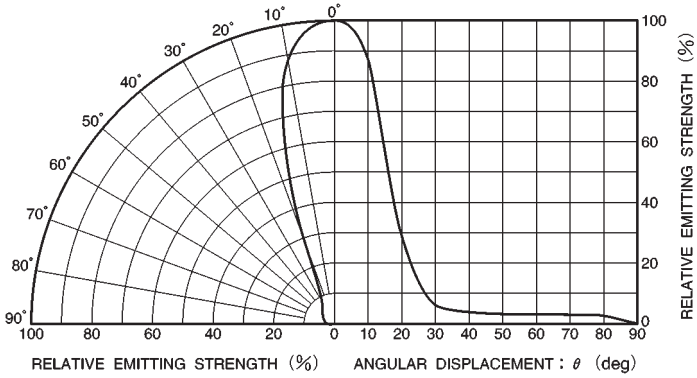


Fig. 6 Directional pattern