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.

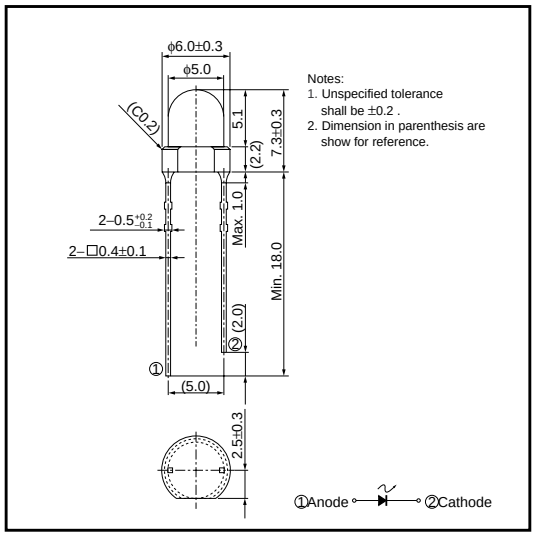
●Applications

VCR's, Optical control equipment

●Features

1) ϕ5 mm plastic package.
2) Direct-mount type.
3) Long life and high reliability.

●Dimensions (Unit : 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}*	0.5	A
Operating temperature	Topr	−25 to +85	°C
Storage temperature	Tstg	−40 to +85	°C

* Pulse width = 0.1 ms, 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

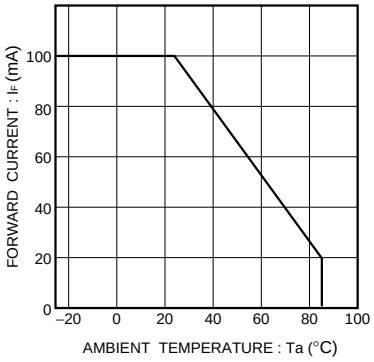


Fig.1 Forward current falloff

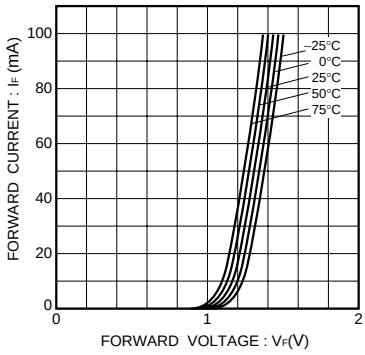


Fig.2 Forward current vs. forward voltage

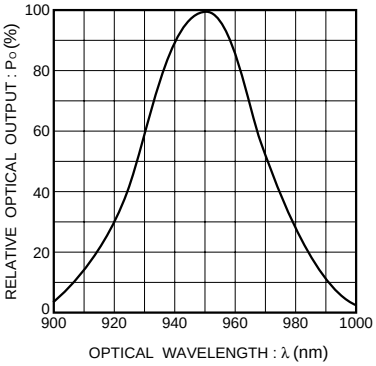


Fig.3 Wavelength characteristics

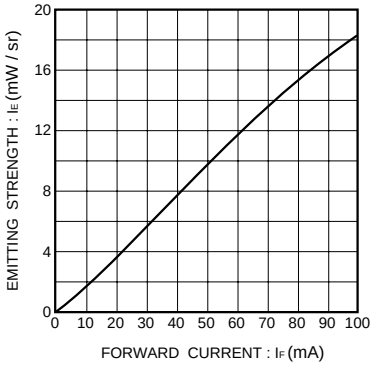


Fig.4 Emitting strength vs. forward current

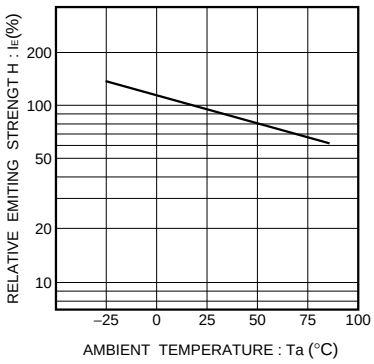


Fig. 5 Relative emitting strength vs. ambient temperature

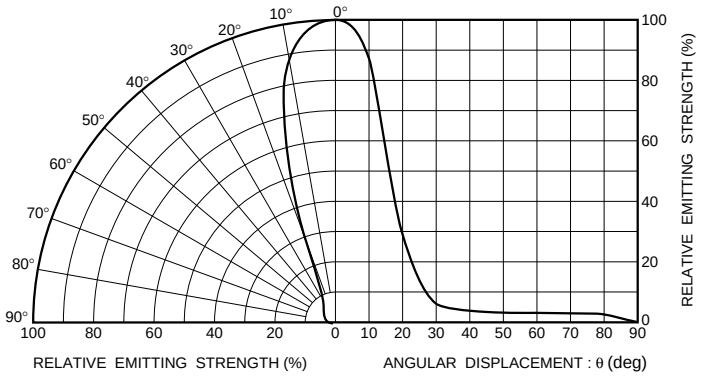


Fig. 6 Directional pattern

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