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.

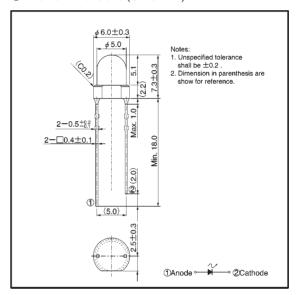
Applications

VCR's, Optical control equipment

Features

- 1) ϕ 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 | lF | 100 | mA |
| Reverse voltage | VR | 5 | ٧ |
| Power dissipation | P□ | 160 | mW |
| Pulse forward current | IFP* | 1.0 | Α |
| Operating temperature | Topr | -25~ + 85 | °C |
| Storage temperature | Tstg | −40~+85 | Ĉ |

^{*} Pulse width=0.1 msec, duty ratio 1%

Sensors SIR-505STA47

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

| Parameter | Symbol | Min. | Тур. | Max. | Unit | Conditions |
|--------------------------------|---------|------|------|------|-------|--------------------|
| Optical output | Po | _ | 8.0 | _ | mW | l==50mA |
| Emitting strength | ΙE | 5.6 | 10.0 | 25.7 | mW/sr | l==50mA |
| Forward voltage | VF | _ | 1.38 | 1.6 | ٧ | I=100mA |
| Reverse current | lR | _ | _ | 10 | μΑ | V _R =3V |
| Peak light emitting wavelength | λр | _ | 950 | _ | nm | I==50mA |
| Spectral line half width | Δλ | _ | 40 | _ | nm | I==50mA |
| Half-viewing angle | θ 1/2 | _ | ±15 | _ | deg | I==50mA |
| Response time | tr • tf | _ | 1.0 | _ | μS | I==50mA |
| Cut-off frequency | fc | _ | 1.0 | _ | MHz | l==50mA |

Electrical and optical characteristic curves

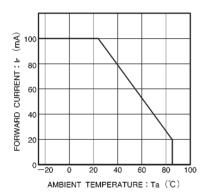


Fig.1 Forward current falloff

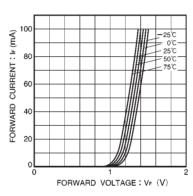


Fig.2 Forward current vs. forward voltage

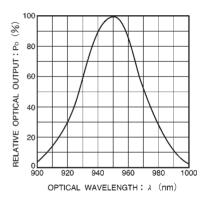


Fig.3 Wavelength characteristics

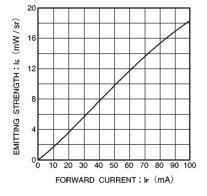


Fig.4 Emitting strength vs. forward current

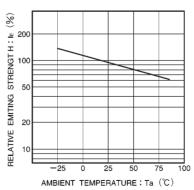


Fig. 5 Relative emitting strength vs. ambient temperature

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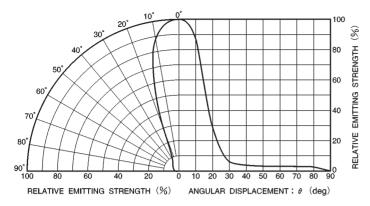


Fig. 6 Directional pattern