

Si PIN photodiodes



S2506 series

S6775 series

S6967

Plastic SIP (single in-line package)

S2506/S6775 series and S6967 are Si PIN photodiodes with large active areas, molded into a clear or visible-cut plastic SIP for detecting visible to near infrared range or near infrared range only. These Si PIN photodiodes feature high sensitivity, high-speed response and large active areas.

Features

- S2506-02: Visible to near infrared range
S2506-04: Visible-cut
S6775, S6967: Visible to near infrared range, high sensitivity, high-speed response, large active area
- S6775-01: Visible-cut, high sensitivity, high-speed response, large active area
- Plastic package: 7 × 7.8 mm
- Active area size
S2506 series: 2.77 × 2.77 mm
S6775 series, S6967: 5.5 × 4.8 mm

Applications

- FSO (free space optics)
- Optical switches
- Laser radar, etc.

勝特力材料 886-3-5753170
 勝特力电子(上海) 86-21-34970699
 勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)

General ratings / Absolute maximum ratings

| Type No. | Package | Active area size (mm) | Effective active area (mm ²) | Absolute maximum ratings | | | |
|----------|---------|-----------------------|--|---|--------------------------|---|---|
| | | | | Reverse voltage V _R Max. (V) | Power dissipation P (mW) | Operating temperature T _{opr} (°C) | Storage temperature T _{stg} (°C) |
| S2506-02 | Plastic | 2.77 × 2.77 | 7.7 | 35 | 150 | -25 to +85 | -40 to +100 |
| S2506-04 | | | | | 50 | | |
| S6775 | | 5.5 × 4.8 | 26.4 | | 50 | | |
| S6775-01 | | | | | | | |
| S6967 | | | | | | | |

Electrical and optical characteristics (Typ. T_a=25 °C, unless otherwise noted)

| Type No. | Spectral response range λ (nm) | Peak sensitivity wavelength λ _p (nm) | Photo sensitivity S (A/W) | | | | Short circuit current I _{sc} 100 lx (μA) | Dark current I _D | | Temp. coefficient of I _D T _{CI_D} (times/°C) | Cut-off frequency f _c R _L =50 Ω -3 dB (MHz) | Terminal capacitance C _t f=1 MHz (pF) | NEP (W/Hz ^{1/2}) |
|----------|--------------------------------|---|---------------------------|--------|--------|--------|---|-----------------------------|-----------|--|---|--|----------------------------|
| | | | λ _p | 660 nm | 780 nm | 830 nm | | Typ. (nA) | Max. (nA) | | | | |
| S2506-02 | 320 to 1100 | 960 | 0.56 | 0.4 | 0.48 | 0.5 | 7.3 | 0.1 *1 | 10 *1 | 1.15 | 25 *1 | 15 *1 | 1.0 × 10 ⁻¹⁴ *1 |
| S2506-04 | 760 to 1100 | | | - | - | 0.25 | 4.1 | | | | | | |
| S6775 | 320 to 1100 | 960 | 0.7 | 0.45 | 0.55 | 0.6 | 30 | 10 *2 | 15 *2 | | 40 *2 | 1.8 × 10 ⁻¹⁴ *2 | |
| S6775-01 | 700 to 1100 | | | 0.68 | - | 0.48 | 0.54 | | | | | | |
| S6967 | 320 to 1060 | 900 | 0.65 | 0.45 | 0.55 | 0.6 | 26 | 5 *2 | 50 *2 | | 50 *2 | 2.0 × 10 ⁻¹⁴ *2 | |

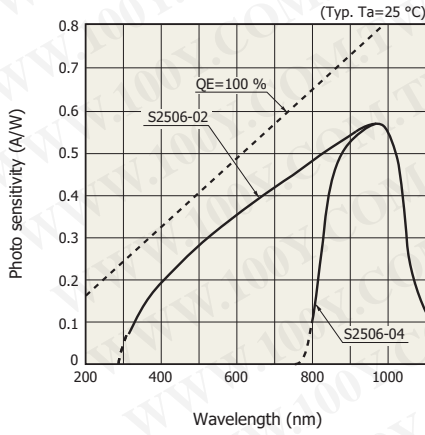
*1: V_R=12 V

*2: V_R=10 V

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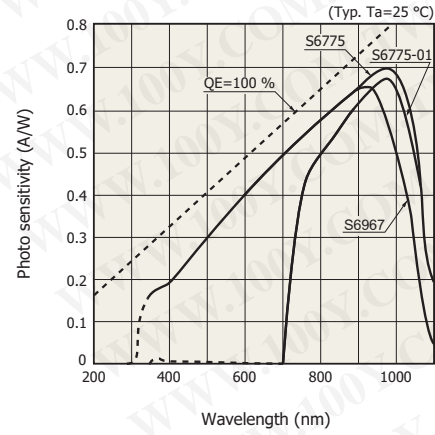
Spectral response

S2506 series



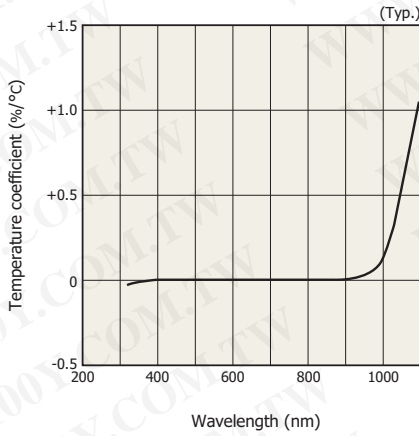
KPINB0348EB

S6775 series, S6967



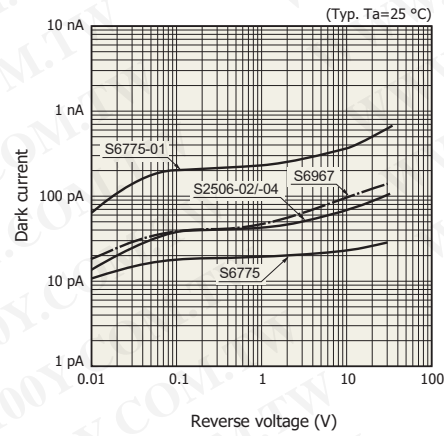
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Photo sensitivity temperature characteristic (S2506-02)



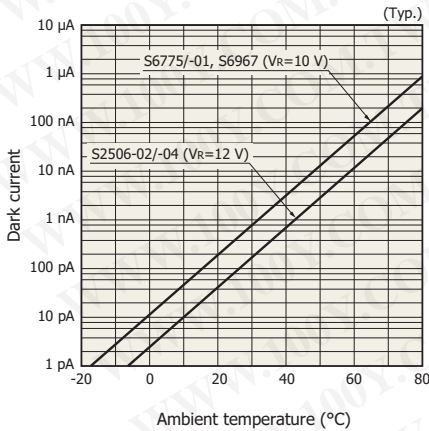
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Dark current vs. reverse voltage



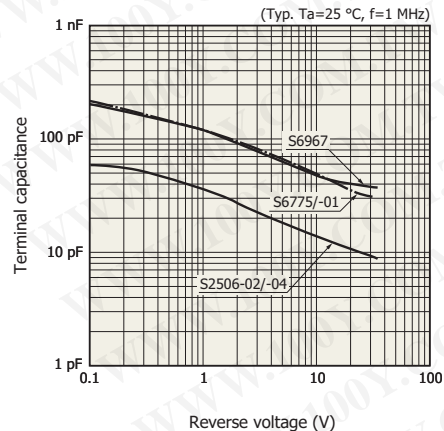
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Dark current vs. ambient temperature



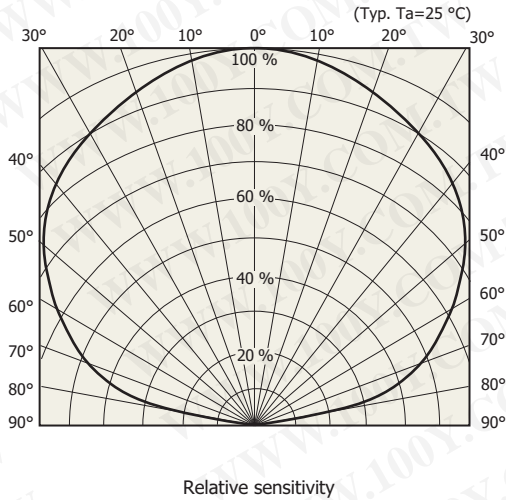
KPINB0169EC

Terminal capacitance vs. reverse voltage



KPINB0170EC

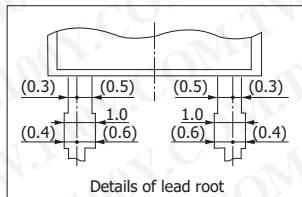
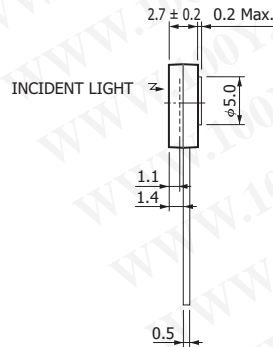
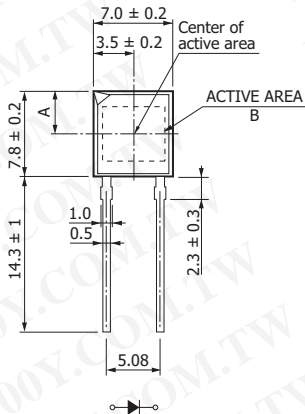
Directivity (S2506-02)



KPIN80065EB

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Dimensional outline (unit: mm, tolerance unless otherwise noted: ± 0.1)



| Type No. | A | B |
|-----------------------|----------------|--------------------|
| S2506 series | 2.8 ± 0.2 | 2.77×2.77 |
| S6775/series S6967 | 3.65 ± 0.2 | 5.5×4.8 |

Lead surface finish: Silver plating
 Packing: Polyethylene pack [anti-static type]
 (500 pcs/pack)

KPINA0084EC

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