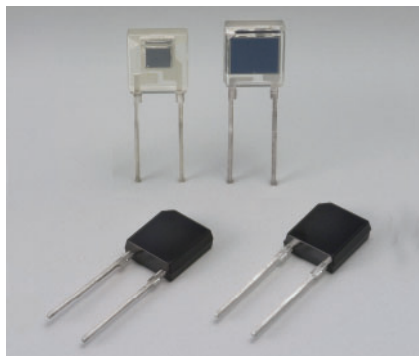


# Si PIN photodiodes



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**
- **Photosensitive 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.**

### General ratings / Absolute maximum ratings

Type no.	Package	Photosensitive area size (mm)	Effective photosensitive area (mm <sup>2</sup> )	Absolute maximum ratings			
				Reverse voltage VR max. (V)	Power dissipation P (mW)	Operating temperature Topr (°C)	Storage temperature Tstg (°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. Ta=25 °C, unless otherwise noted)

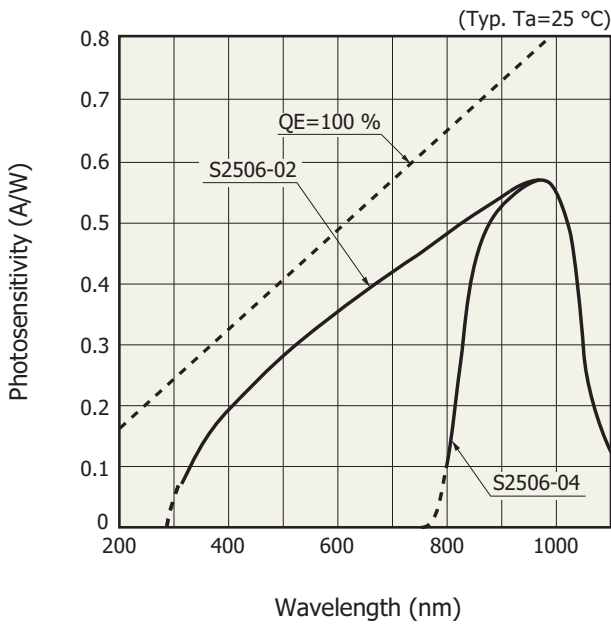
Type no.	Spectral response range λ (nm)	Peak sensitivity wavelength λp (nm)	Photosensitivity S (A/W)				Short circuit current Isc 100 lx (μA)	Dark current ID		Temp. coefficient of ID TCID (times/°C)	Cut-off frequency fc RL=50 Ω -3 dB (MHz)	Terminal capacitance Ct f=1 MHz (pF)	NEP (W/Hz <sup>1/2</sup> )
			λp	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 <sup>-14*1</sup>
S2506-04	760 to 1100			-	-	0.25	4.1						
S6775	320 to 1100	960	0.7	0.45	0.55	0.6	30	0.5*2	10*2		15*2	40*2	1.8 × 10 <sup>-14*2</sup>
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 <sup>-14*2</sup>	

\*1: VR=12 V

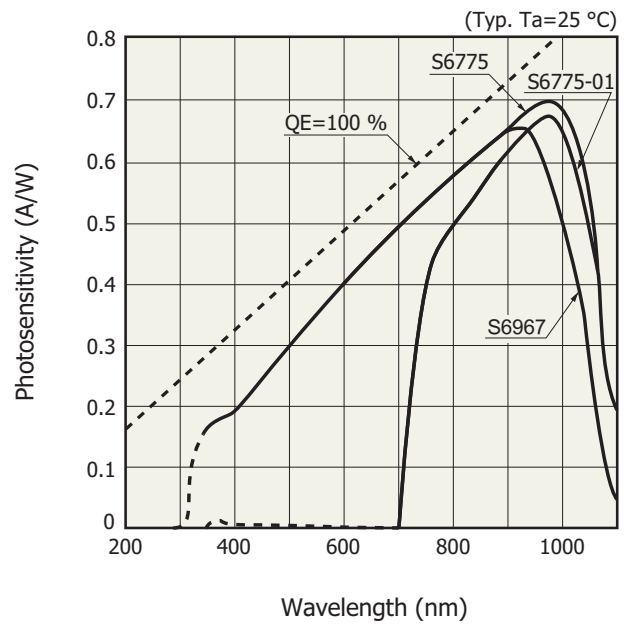
\*2: VR=10 V

**Spectral response**

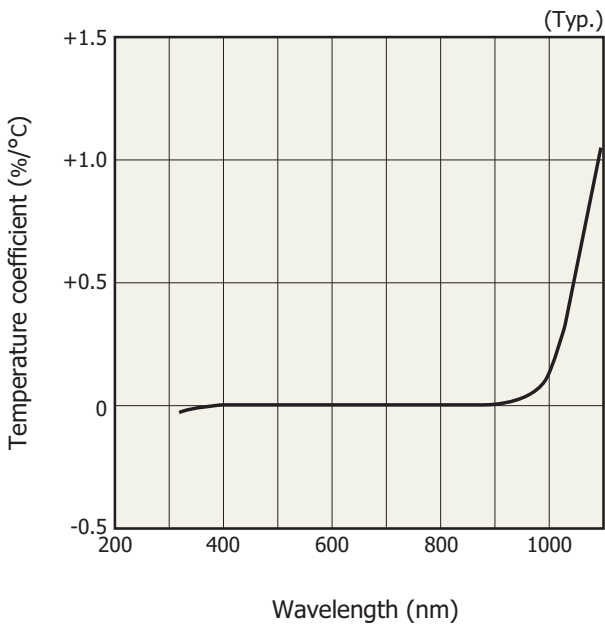
S2506 series



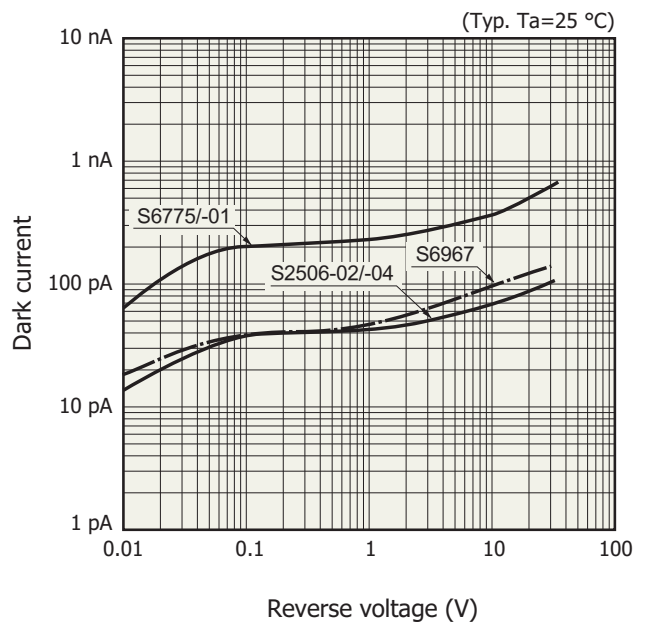
S6775 series, S6967



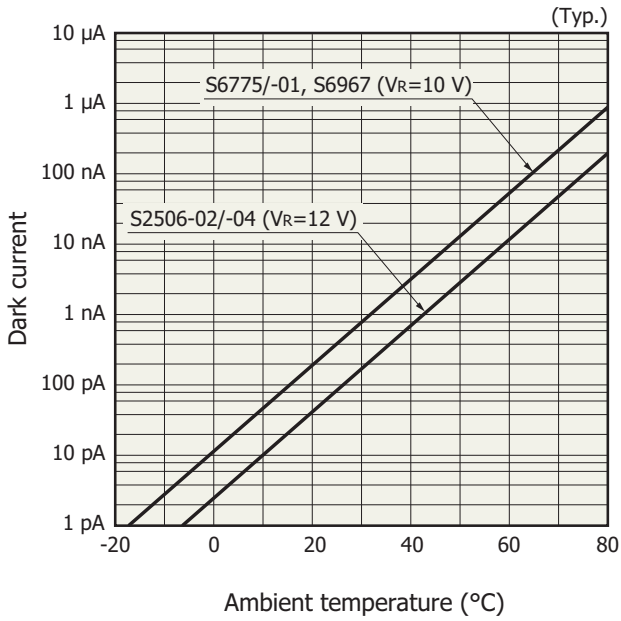
**Photo sensitivity temperature characteristic (S2506-02)**



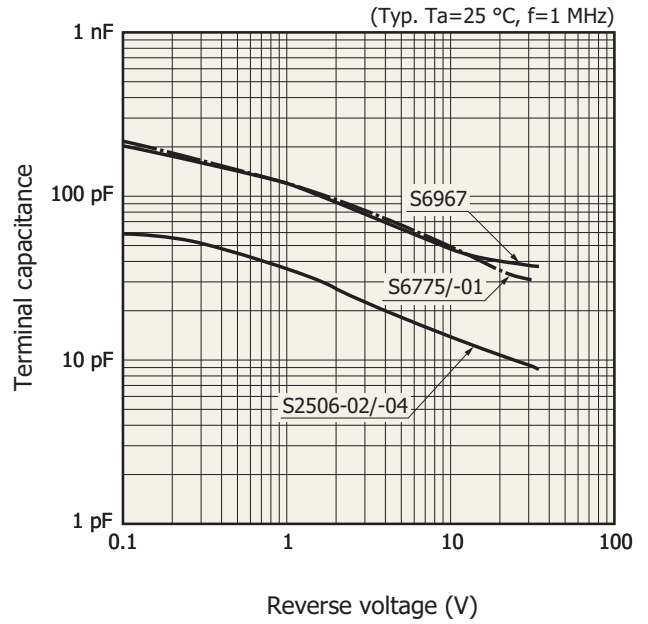
**Dark current vs. reverse voltage**



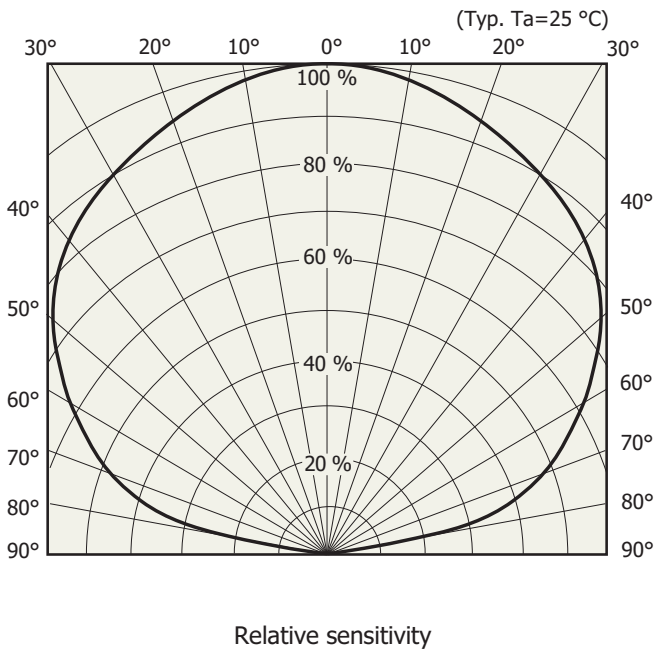
**Dark current vs. ambient temperature**



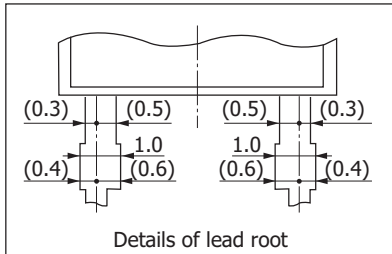
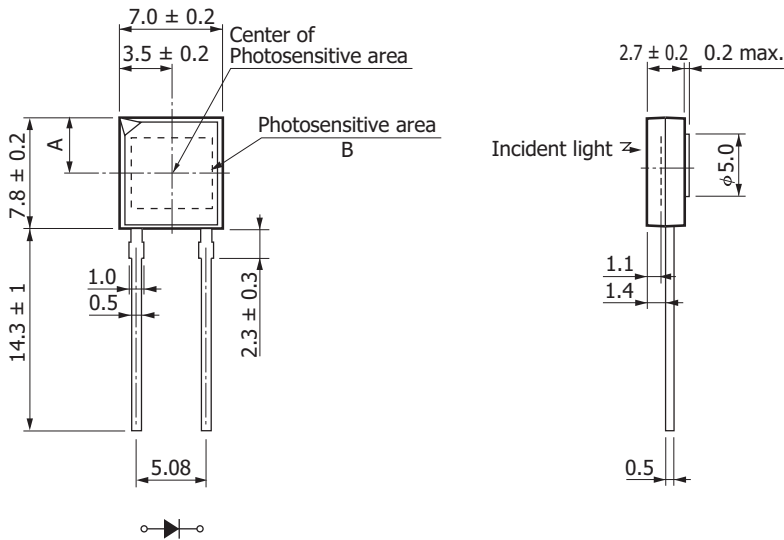
**Terminal capacitance vs. reverse voltage**



**Directivity (S2506-02)**



**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]  
(200 pcs/pack)

KPINA0084ED

Information described in this material is current as of December, 2011.

Product specifications are subject to change without prior notice due to improvements or other reasons. Before assembly into final products, please contact us for the delivery specification sheet to check the latest information.

Type numbers of products listed in the delivery specification sheets or supplied as samples may have a suffix "(X)" which means preliminary specifications or a suffix "(Z)" which means developmental specifications.

The product warranty is valid for one year after delivery and is limited to product repair or replacement for defects discovered and reported to us within that one year period. However, even if within the warranty period we accept absolutely no liability for any loss caused by natural disasters or improper product use.

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