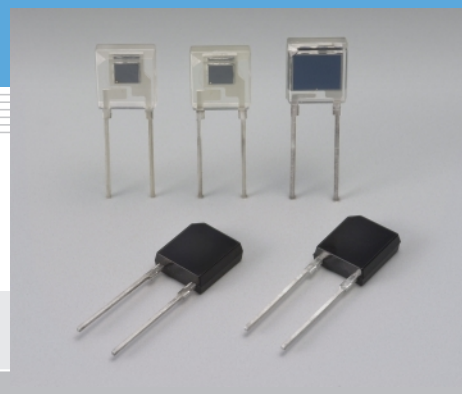


# Si PIN photodiode

## S2506/S6775/S6967 series, S6786

### Plastic SIP (Single In-line Package)



S2506/S6775/S6967 series and S6786 are Si PIN photodiodes with large active areas, molded into a clear or visible-cut plastic SIP (Single In-line Package) 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, allowing you to choose the optimum type that best matches your application.

#### Features

- S2506-02: Visible to near infrared range  
S2506-04: Visible-cut  
S6786 : Visible to near infrared range, high sensitivity, high-speed response  
S6775, S6967: Visible to near infrared range, high sensitivity, high-speed response, large active area  
S6775-01, S6967-01: Visible-cut, high sensitivity, high-speed response, large active area
- Plastic package: 7 × 7.8 mm
- Active area size  
S2506 series, S6786: 2.77 × 2.77 mm  
S6775/S6967 series : 5.5 × 4.8 mm

#### Applications

- Spatial light transmission
- Optical switches
- Laser radar, etc.

#### General ratings / Absolute maximum ratings

Type No.	Dimensional outline	Package	Active area size (mm)	Effective active 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	①	Plastic	2.77 × 2.77	7.7	35	150	-25 to +85	-40 to +100
S2506-04								
S6786								
S6775	②		5.5 × 4.8	26.4		50		
S6775-01								
S6967								
S6967-01								

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

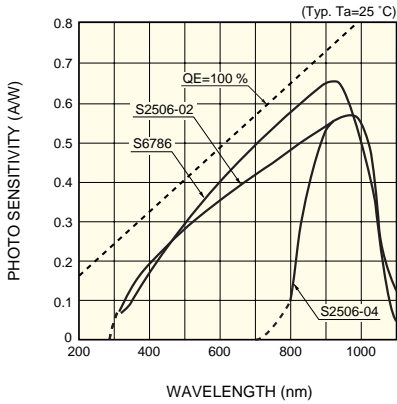
Type No.	Spectral response range λ (nm)	Peak sensitivity wavelength λp (nm)	Photo sensitivity S (A/W)				Short circuit current Isc 100 lx (μA)	Dark current Id		Temp. coefficient of Id TCID (times/°C)	Cut-off frequency fc RL=50 Ω -3 dB (MHz)	Terminal capacitance Ct f=1 MHz (pF)	NEP (W/Hz <sup>1/2</sup> )				
			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</sup> *1				
S2506-04	760 to 1100			-	-	0.25	4.1										
S6786	320 to 1060	960	0.65	0.45	0.55	0.6	7.5	0.3 *2	5 *2		60 *2	15 *2		1.5 × 10 <sup>-14</sup> *2			
S6775	320 to 1100														0.7	-	0.48
S6775-01	700 to 1100	960	0.68	-	0.48	0.54	21	0.5 *2	10 *2		15 *2	40 *2		1.8 × 10 <sup>-14</sup> *2			
S6967	320 to 1060														0.65	0.45	0.55
S6967-01	700 to 1060									0.63			-		0.48	0.54	18

\*1: VR=12 V

\*2: VR=10 V

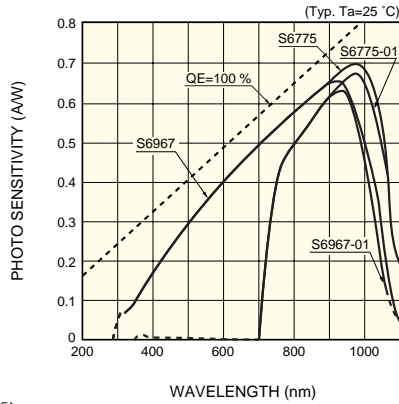
## ■ Spectral response

S2506 series, S6786



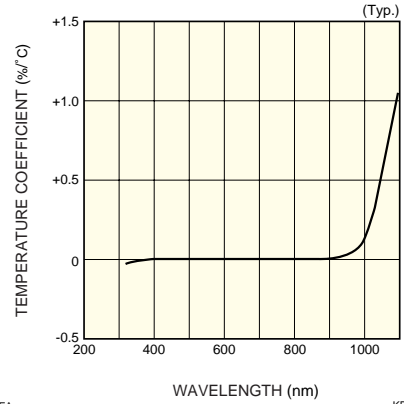
KPINB0348EA

S6775/S6967 series



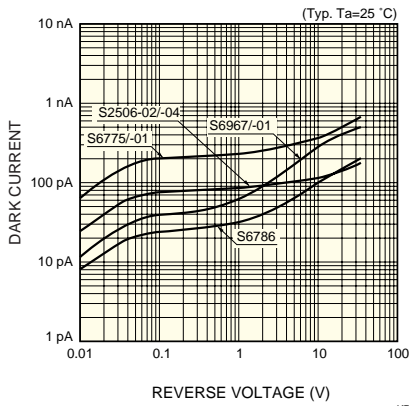
KPINB0349EA

## ■ Photo sensitivity temperature characteristic (S2506-02)



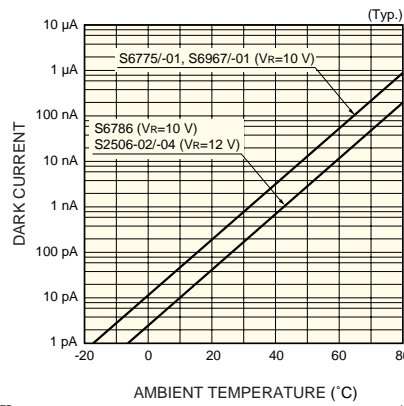
KPINB0063EC

## ■ Dark current vs. reverse voltage



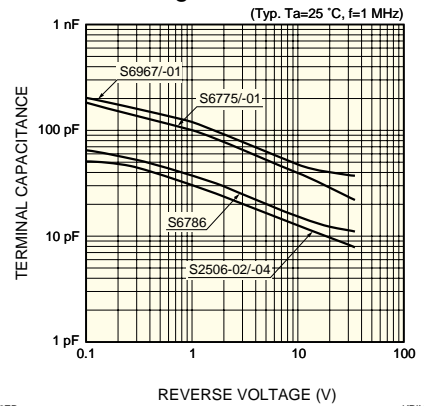
KPINB0168EB

## ■ Dark current vs. ambient temperature



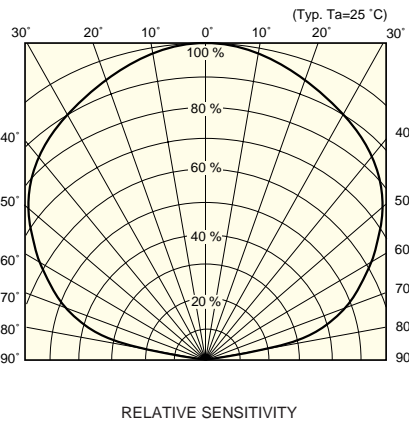
KPINB0169EB

## ■ Terminal capacitance vs. reverse voltage



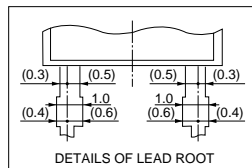
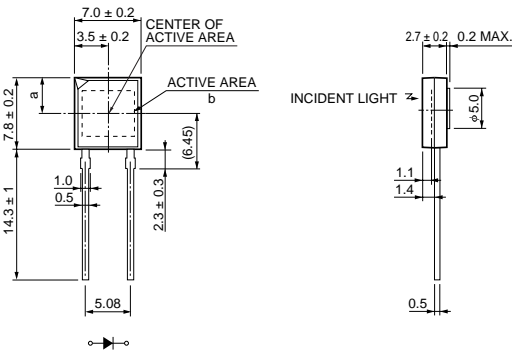
KPINB0170EB

## ■ Directivity (S2506-02)



KPINB0065EB

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



Type No.	a	b
S2506 series S6786	2.8 ± 0.2	2.77 × 2.77
S6775/S6967 series	3.65 ± 0.2	5.5 × 4.8

KPINA0084EB

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