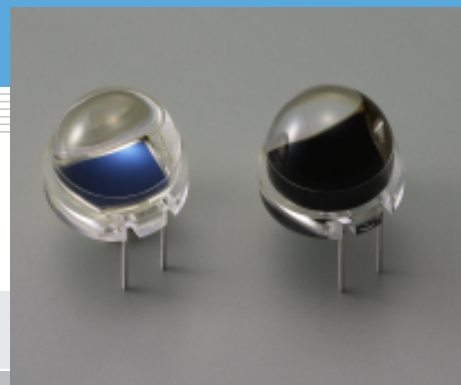


# Si PIN photodiode S6801/S6968 series

φ14 mm lens plastic package



S6801/S6968 series is a Si PIN photodiode molded into a plastic package with a φ14 mm lens. Four types are provided, S6801, S6968 with a clear plastic package and S6801-01, S6968-01 with a visible-cut package.

## Features

- Plastic packages with φ14 mm lens
- High-speed response (S6968 series): 50 MHz Typ. ( $V_R=10$  V,  $\lambda=850$  nm)
- High sensitivity (S6801, S6968): 0.63 A/W ( $\lambda=850$  nm)
- Directivity: 35° (half angle)
- Visible-cut type: S6801-01, S6968-01
- Active area size: φ14 mm (lens diameter)
- Effective active area: 150 mm<sup>2</sup>

## Applications

- Spatial light transmission
- Optical communication
- Optical data link
- High-speed optical measurement
- Optical switch
- Laser radar

## General ratings / Absolute maximum ratings

Type No.	Package	Active area size (mm)	Effective active area (mm <sup>2</sup> )	Absolute maximum ratings		
				Reverse voltage $V_R$ Max. (V)	Operating temperature $T_{opr}$ (°C)	Storage temperature $T_{stg}$ (°C)
S6801	Plastic	φ14	150	35	-25 to +85	-40 to +100
S6801-01						
S6968						
S6968-01						

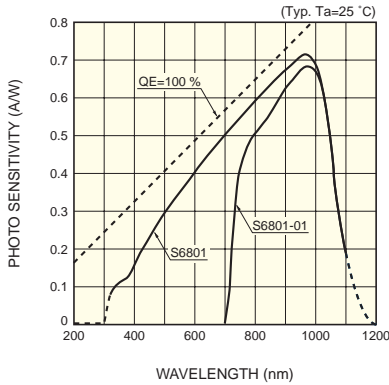
## Electrical and optical characteristics

Type No.	Spectral response range $\lambda$ (nm)	Peak sensitivity wavelength $\lambda_p$ (nm)	Photo sensitivity S $\lambda=850$ nm		Short circuit current $I_{sc}$ 100 lx 2856 K		Dark current $I_D$ $V_R=10$ V		Temp. coefficient of $I_D$ $T_{CID}$ (times/°C)	Cut-off frequency $f_c$ $V_R=10$ V $R_L=50$ Ω $\lambda=850$ nm, -3 dB		Terminal capacitance $C_t$ $V_R=10$ V $f=1$ MHz		Half * angle (degree)
			Min. (A/W)	Typ. (A/W)	Min. (μA)	Typ. (μA)	Typ. (nA)	Max. (nA)		Min. (MHz)	Typ. (MHz)	Typ. (pF)	Max. (pF)	
S6801	320 to 1100	960	0.57	0.63	95	120	0.5	10	1.15	7	15	40	80	±35
S6801-01	700 to 1100		0.5	0.55	64	80								
S6968	320 to 1060	920	0.57	0.63	83	104	0.5	5		30	50	50	100	
S6968-01	700 to 1060		0.5	0.55	57	72								

\* Photocurrent generated in a photodiode varies depending on the incident light angle. The half angle is the incident light angle at which the photocurrent is 50 % of that generated when the incident light is perpendicular to the photodiode.

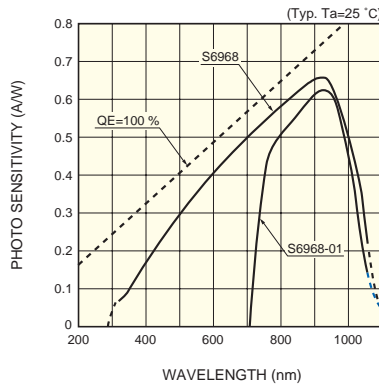
## Spectral response

### S6801 series



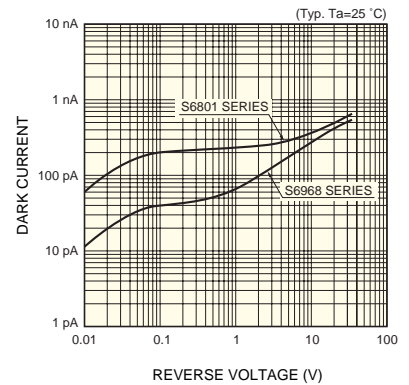
KPINB0345EA

### S6968 series



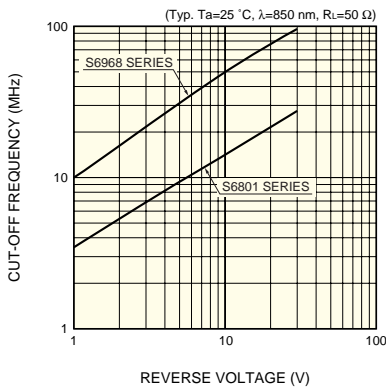
KPINB0214EA

## Dark current vs. reverse voltage



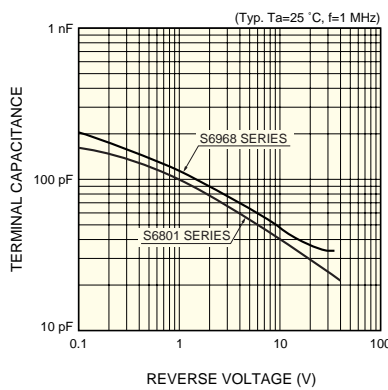
KPINB0205EC

## Cut-off frequency vs. reverse voltage



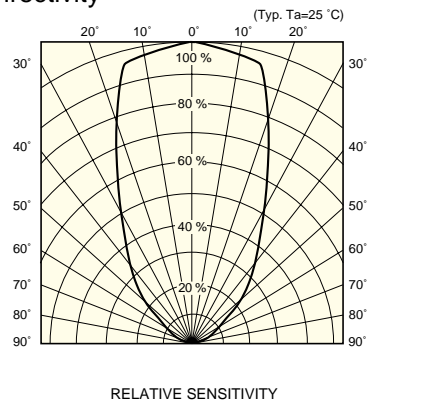
KPINB0241EB

## Terminal capacitance vs. reverse voltage



KPINB0207EB

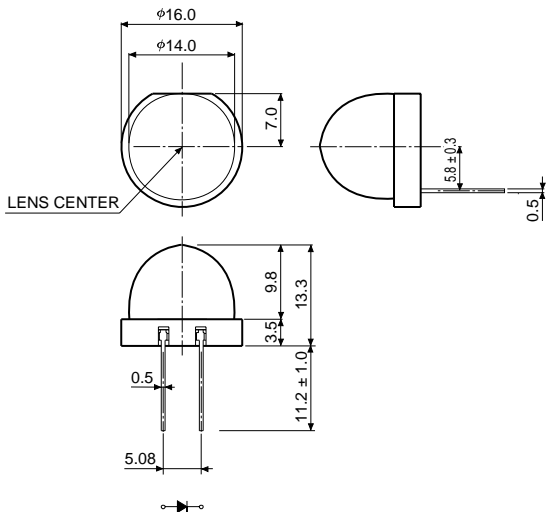
## Directivity



KPINB0211EA

## Dimensional outline

(unit: mm, tolerance unless otherwise noted:  $\pm 0.1$ )



KPINA0044EA

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