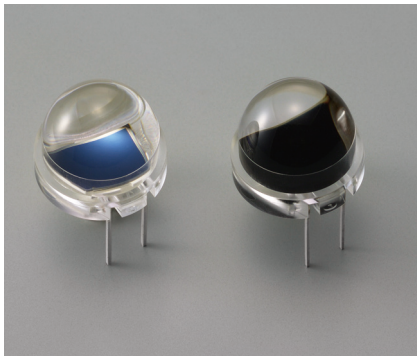


Si PIN photodiode



S6801/S6968 series

φ14 mm lens plastic package

The 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. ($V_R=10\text{ V}$, $\lambda=850\text{ nm}$)
- High sensitivity (S6801, S6968): 0.63 A/W ($\lambda=850\text{ nm}$)
- Directivity: 35 ° (half angle)
- Visible-cut type: S6801-01, S6968-01
- Photosensitive area size: φ14 mm (lens diameter)
- Effective photosensitive area: 150 mm²

Applications

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

Structure / Absolute maximum ratings

Type no.	Package	Photosensitive area size (mm)	Effective photosensitive area (mm ²)	Absolute maximum ratings		
				Reverse voltage V_R max (V)	Operating temperature T_{opr} (°C)	Storage temperature T_{stg} (°C)
S6801	Plastic	φ14	150	20	-25 to +85	-40 to +100
S6801-01						
S6968						
S6968-01						

Note: Exceeding the absolute maximum ratings even momentarily may cause a drop in product quality. Always be sure to use the product within the absolute maximum ratings.

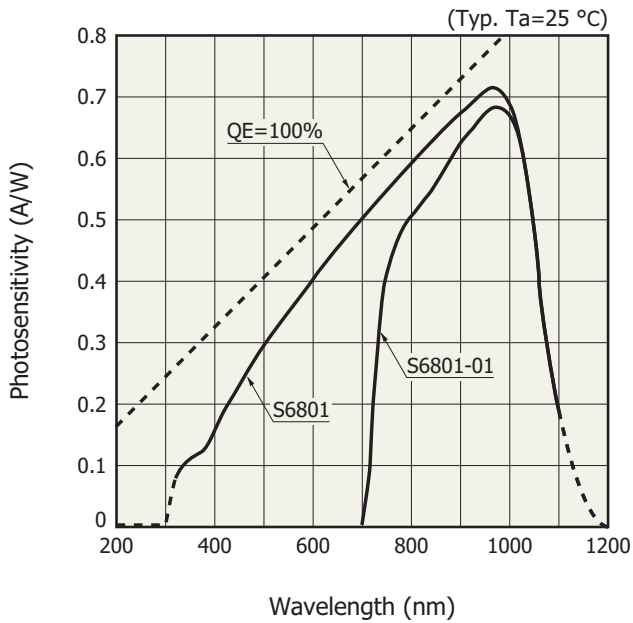
Electrical and optical characteristics

Type No.	Spectral response range λ (nm)	Peak sensitivity wavelength λ_p (nm)	Photosensitivity S $\lambda=850\text{ nm}$		Short circuit current I_{sc} 100 lx 2856 K		Dark current I_D $V_R=10\text{ V}$		Temp. coefficient of I_D T_{CID} (times/°C)	Cutoff frequency f_c $V_R=10\text{ V}$ $R_L=50\ \Omega$ $\lambda=850\text{ nm}$, -3 dB		Terminal capacitance C_t $V_R=10\text{ V}$ $f=1\text{ MHz}$		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	
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								

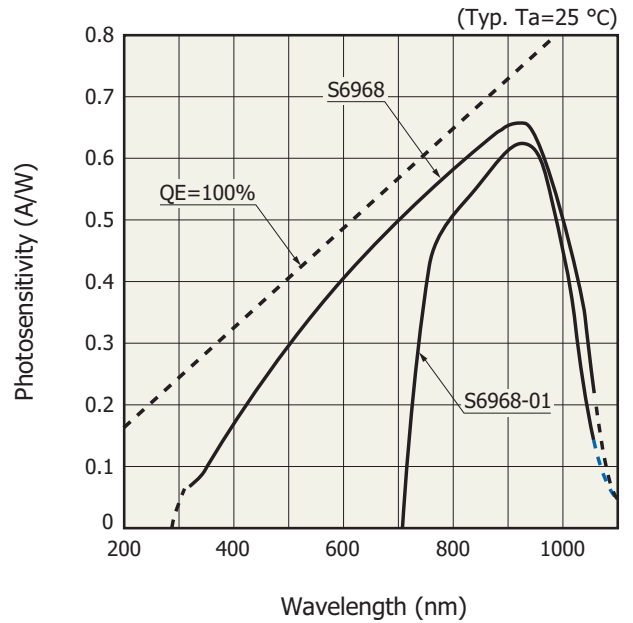
* Photocurrent generated in a photodiode varies depending on the incident light angle. The half angle is the incident light angle at which the photocurrent is 50% of that generated when the incident light is perpendicular to the photodiode.

Spectral response

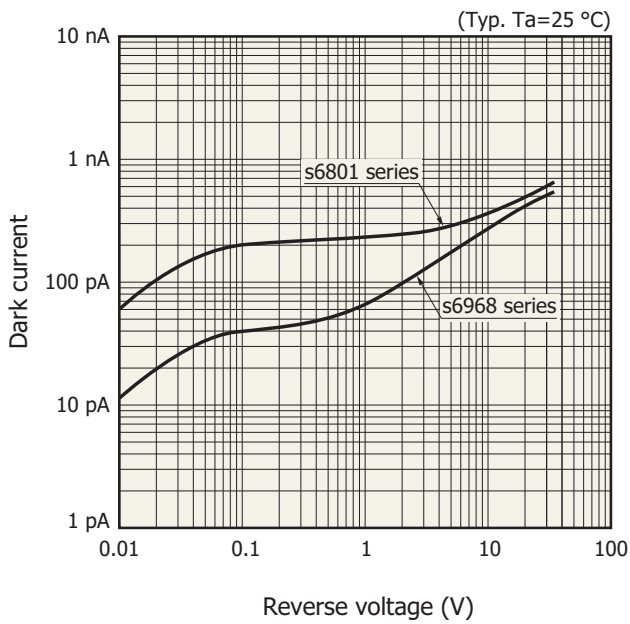
S6801 series



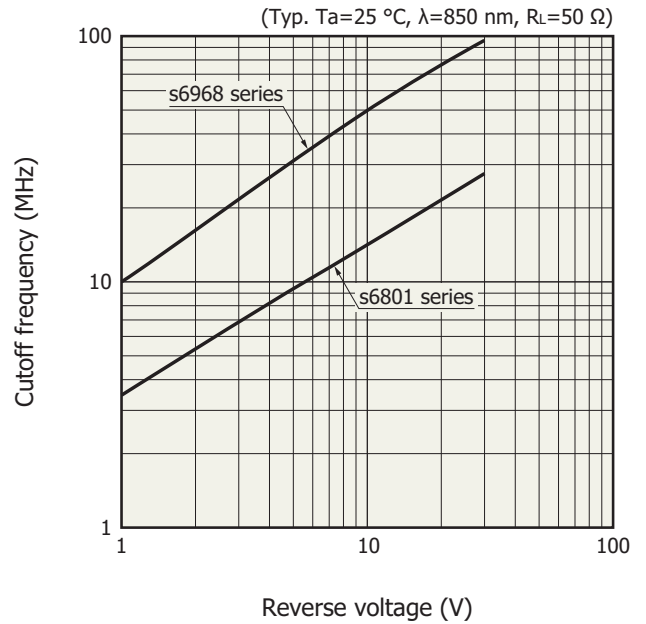
S6968 series



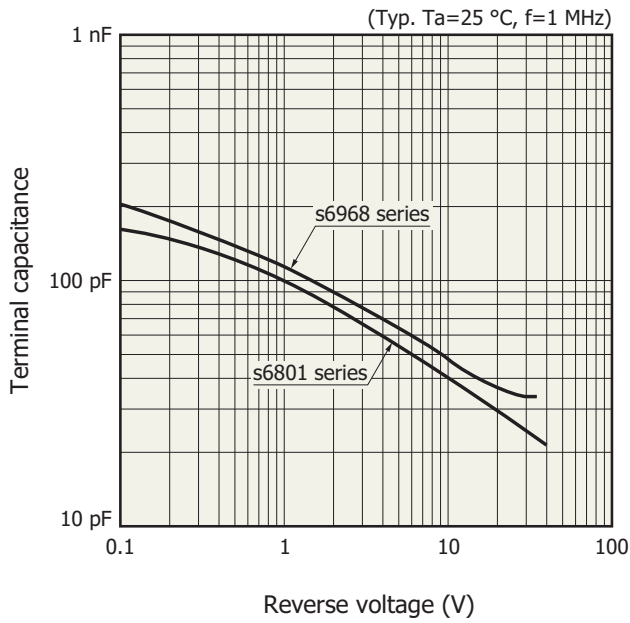
Dark current vs. reverse voltage



Cutoff frequency vs. reverse voltage

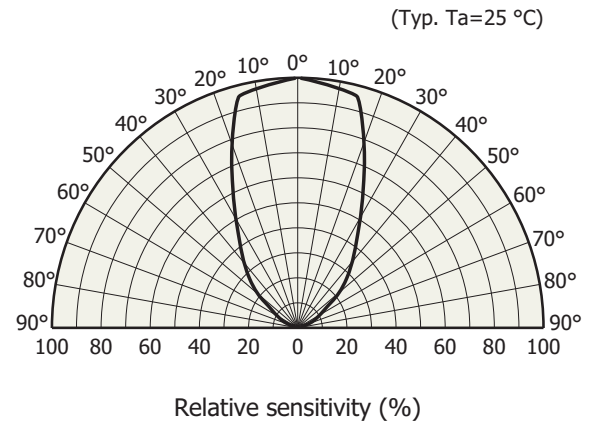


Terminal capacitance vs. reverse voltage



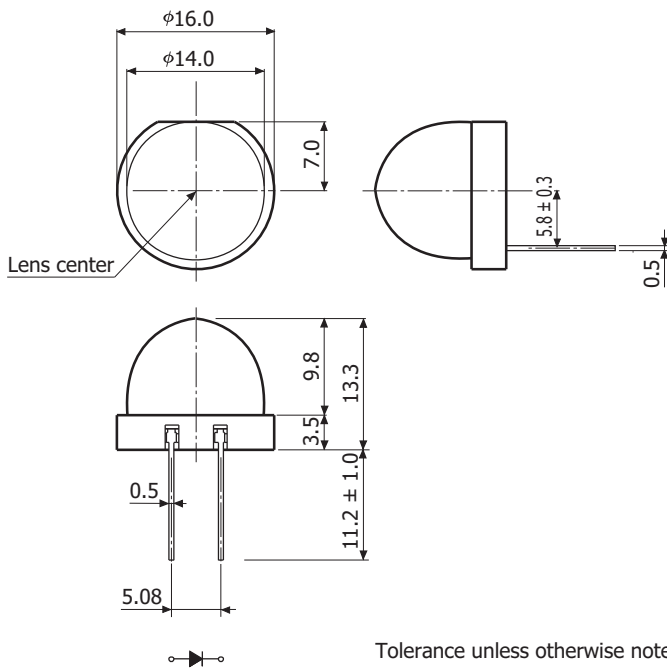
KPINB0207EC

Directivity



KPINB0211EB

Dimensional outline (unit: mm)



Tolerance unless otherwise noted: ± 0.1

KPINA0044EC

Related information

www.hamamatsu.com/sp/ssd/doc_en.html

■ Precautions

- Disclaimer
- Metal, ceramic, plastic package products

■ Technical information

- Si photodiode/Application circuit examples

Information described in this material is current as of April 2020.

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HAMAMATSU

www.hamamatsu.com

HAMAMATSU PHOTONICS K.K., Solid State Division

1126-1 Ichino-cho, Higashi-ku, Hamamatsu City, 435-8558 Japan, Telephone: (81)53-434-3311, Fax: (81)53-434-5184

U.S.A.: Hamamatsu Corporation: 360 Foothill Road, Bridgewater, N.J. 08907, U.S.A., Telephone: (1)908-231-0960, Fax: (1)908-231-1218, E-mail: usa@hamamatsu.com

Germany: Hamamatsu Photonics Deutschland GmbH: Arzbergerstr. 10, D-82211 Herrsching am Ammersee, Germany, Telephone: (49)8152-375-0, Fax: (49)8152-265-8, E-mail: info@hamamatsu.de

France: Hamamatsu Photonics France S.A.R.L.: 19, Rue du Saule Trapu, Parc du Moulin de Massy, 91882 Massy Cedex, France, Telephone: (33)1 69 53 71 00, Fax: (33)1 69 53 71 10, E-mail: infos@hamamatsu.fr

United Kingdom: Hamamatsu Photonics UK Limited: 2 Howard Court, 10 Tewin Road, Welwyn Garden City, Hertfordshire AL7 1BW, United Kingdom, Telephone: (44)1707-294888, Fax: (44)1707-325777, E-mail: info@hamamatsu.co.uk

North Europe: Hamamatsu Photonics Norden AB: Torshamnsgatan 35 16440 Kista, Sweden, Telephone: (46)8-509 031 00, Fax: (46)8-509 031 01, E-mail: info@hamamatsu.se

Italy: Hamamatsu Photonics Italia S.r.l.: Strada della Moia, 1 int. 6, 20020 Arese (Milano), Italy, Telephone: (39)02-93 58 17 33, Fax: (39)02-93 58 17 41, E-mail: info@hamamatsu.it

China: Hamamatsu Photonics (China) Co., Ltd.: B1201, Jiaming Center, No.27 Dongsanhuan Beilu, Chaoyang District, 100020 Beijing, P.R.China, Telephone: (86)10-6586-6006, Fax: (86)10-6586-2866, E-mail: hpc@hamamatsu.com.cn

Taiwan: Hamamatsu Photonics Taiwan Co., Ltd.: 8F-3, No. 158, Section2, Gongdao 5th Road, East District, Hsinchu, 300, Taiwan R.O.C. Telephone: (886)3-659-0080, Fax: (886)3-659-0081, E-mail: info@hamamatsu.com.tw