

PHOTODIODE

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. (VR=10 V, λ=850 nm)
- High sensitivity (S6801, S6968): 0.63 A/W (λ=850 nm)
- Directivity: 35° (half angle)
- Visible-cut type: S6801-01, S6968-01
- Active area size: φ14 mm (lens diameter)
- Effective active area: 150 mm²

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 ²)	Absolute maximum ratings		
				Reverse voltage VR Max. (V)	Operating temperature Topr (°C)	Storage temperature Tstg (°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 λ (nm)	Peak sensitivity wavelength λp (nm)	Photo sensitivity S λ=850 nm		Short circuit current Isc 100 lx 2856 K		Dark current ID VR=10 V		Temp. coefficient of ID TCID (times/°C)	Cut-off frequency fc VR=10 V RL=50 Ω λ=850 nm, -3 dB		Terminal capacitance Ct VR=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								

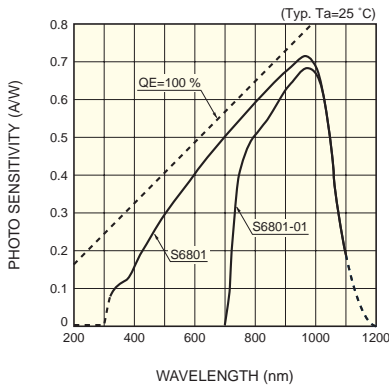
* Photocurrent generated in a photodiode varies depending on the incident light angle. The half angle is the incident light angle at which the photocurrent is 50 % of that generated when the incident light is perpendicular to the photodiode.



Si PIN photodiode S6801/S6968 series

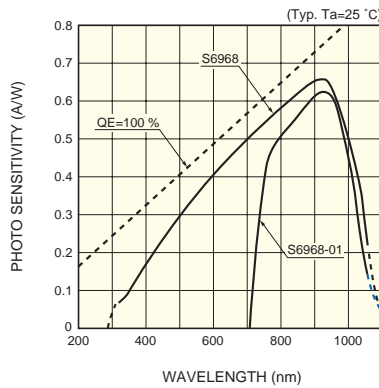
■ Spectral response

S6801 series



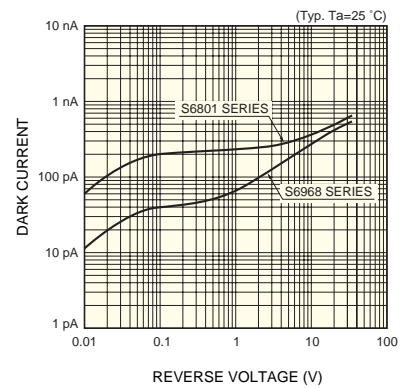
KPINB0345EA

S6968 series



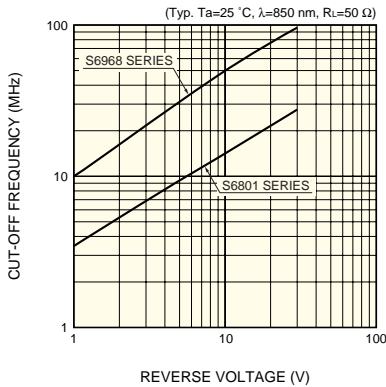
KPINB0214EA

■ Dark current vs. reverse voltage



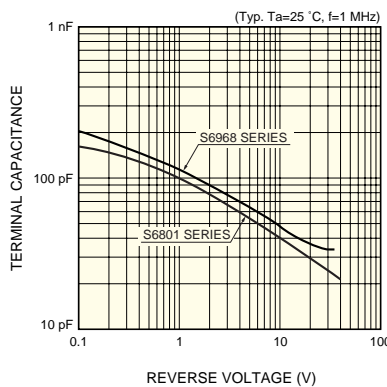
KPINB0205EC

■ Cut-off frequency vs. reverse voltage



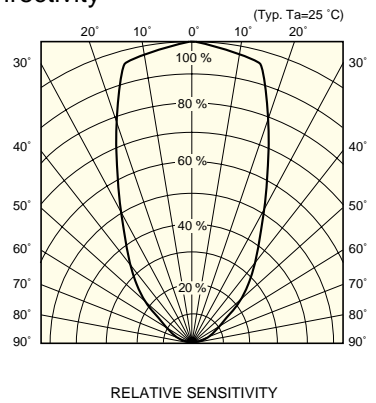
KPINB0241EB

■ Terminal capacitance vs. reverse voltage



KPINB0207EB

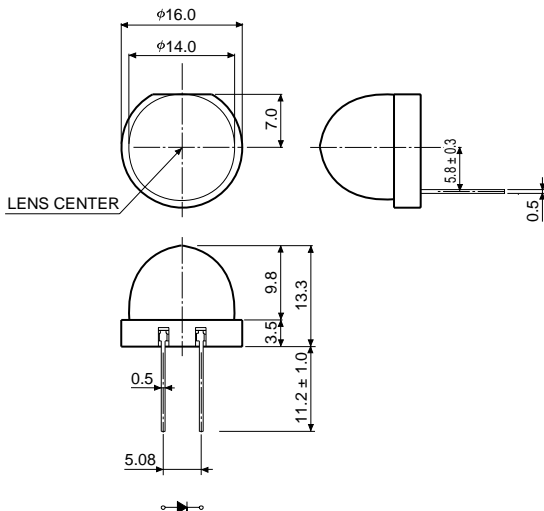
■ Directivity



KPINB0211EA

■ Dimensional outline

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



KPINA0044EA

HAMAMATSU

Information furnished by HAMAMATSU is believed to be reliable. However, no responsibility is assumed for possible inaccuracies or omissions. Specifications are subject to change without notice. No patent rights are granted to any of the circuits described herein. ©2006 Hamamatsu Photonics K.K.

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, www.hamamatsu.com

U.S.A.: Hamamatsu Corporation, 360 Foothill Road, P.O.Box 6910, Bridgewater, N.J. 08807-0910, U.S.A., Telephone: (1) 908-231-0960, Fax: (1) 908-231-1218

Germany: Hamamatsu Photonics Deutschland GmbH, Arzbergerstr. 10, D-82211 Herrsching am Ammersee, Germany, Telephone: (49) 08152-3750, Fax: (49) 08152-2658

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

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

Nepean, Ontario: Hamamatsu Photonics Canada Inc., 1469, 50th Street, Mississauga, Ontario L4W 1A9, Canada, Telephone: (416) 670-0240, Fax: (416) 670-0241