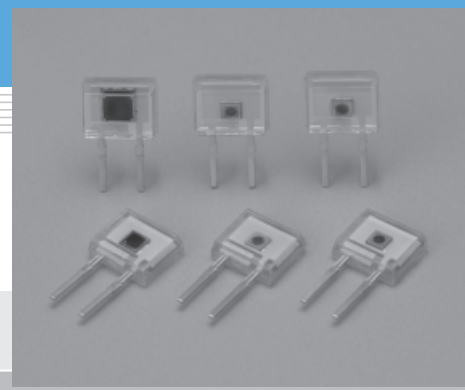


Si PIN photodiode Plastic package

Available with 60 MHz to 500 MHz response speeds



Hamamatsu provides various types of Si PIN photodiodes molded into clear plastic packages. These photodiodes are available with cut-off frequencies from 60 MHz to 500 MHz, allowing you to make the selection that best suits your application. S8387 offers high sensitivity in the violet region and is suited for violet laser detection.

Features

- Clear plastic package (4 × 4.8 mm)
- 2-pin lead style (lead length: 4.9 mm)
- Choice of cut-off frequencies

Applications

- Laser diode front monitors (high-speed APC) for optical disk drives
- Red laser diode (650 nm) and near IR laser diode (780 nm) sensors
- Violet laser detection (S8387)

General ratings / Absolute maximum ratings

Type No.	Dimensional outline	Package	Active area size (mm)	Effective active area (mm ²)	Absolute maximum ratings			
					Reverse voltage V _R Max. (V)	Power dissipation P (mW)	Operating temperature T _{opr} (°C)	Storage temperature T _{stg} (°C)
S7329-01	①	Plastic	2 × 2	4	20	50	-25 to +85	-40 to +100
S7836	②		1.1 × 1.1	1.2				
S3321-04			φ0.8	0.5				
S8223								
S8314								
S7762								
S8387								

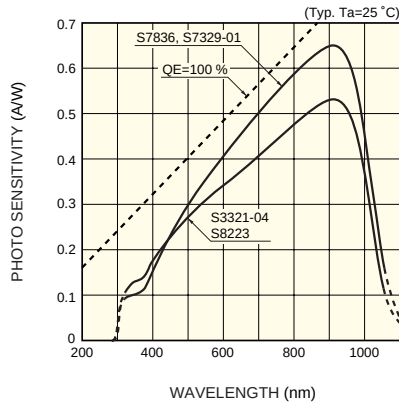
Electrical and optical characteristics (Typ. T_a=25 °C, unless otherwise noted)

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 Max. (nA)	Temp. coefficient of Id TCID (times/°C)	Cut-off frequency fc λ=780 nm RL=50 Ω, -3dB (MHz)	Terminal capacitance Ct f=1 MHz (pF)	NEP λ=λp (W/Hz ^{1/2})				
			410 nm	660 nm	780 nm	830 nm	Min.	Typ.									
S7329-01	320 to 1080	900	0.19	0.45	0.55	0.6	3.3	4.2	1 *1	1.15	60 *1	12 *1	4.8 × 10 ⁻¹⁵ *1				
S7836				0.39	0.48	0.5	1.3	1.65			70 *1	5 *1	3.9 × 10 ⁻¹⁵ *1				
S3321-04							0.6	0.75			80 *1	3 *1	4.1 × 10 ⁻¹⁵ *1				
S8223											200 *1	3 *1	3.4 × 10 ⁻¹⁵ *1				
S8314	320 to 1000	800	0.2	0.39	0.45	0.45	0.37	0.5	0.3 *1		500 *1	4 *1	3.9 × 10 ⁻¹⁵ *1				
S7762		760		0.48	0.5				0.3 *2		500 *2	6 *2	1.4 × 10 ⁻¹⁵ *2				
S8387													1.6 × 10 ⁻¹⁵ *2				

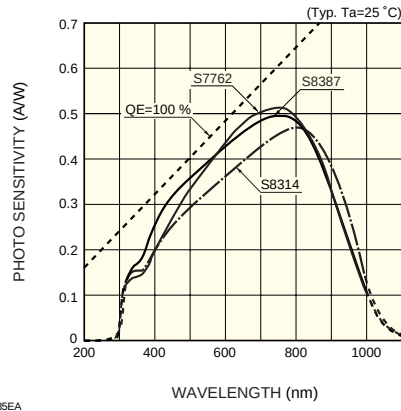
*1: V_R=5 V

*2: V_R=2.5 V

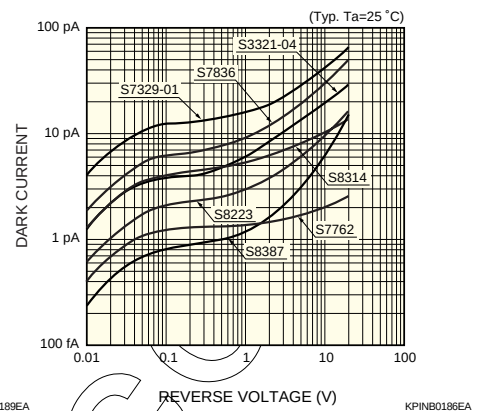
■ Spectral response (1)



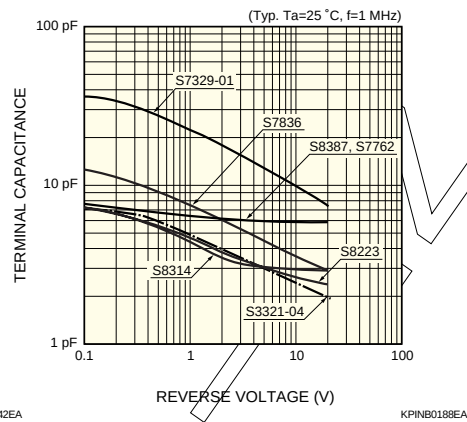
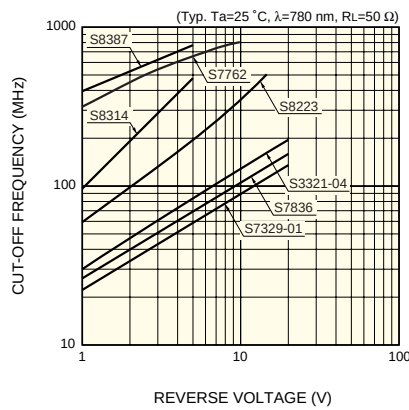
■ Spectral response (2)



■ Dark current vs. reverse voltage

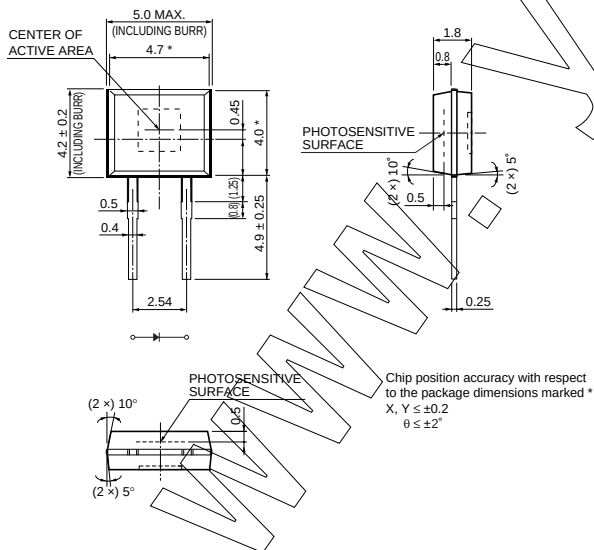


■ Cut-off frequency vs. reverse voltage ■ Terminal capacitance vs. reverse voltage

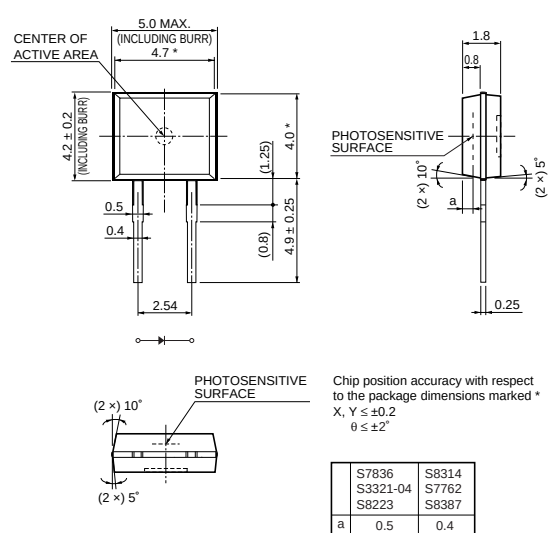


■ Dimensional outlines (unit: mm, tolerance unless otherwise noted: ±0.1)

① S7329-01



② S7836, S3321-04, S8223, S8314, S7762, S8387

**HAMAMATSU**

HAMAMATSU PHOTONICS K.K., Solid State Division

1126-1 Ichino-cho, Hamamatsu City, 435-8558 Japan, Telephone: (81) 053-434-3311, Fax: (81) 053-434-5184, <http://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.: 8, 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

North Europe: Hamamatsu Photonics Norden AB: Smidesvägen 12, SE-171 41 Solna, Sweden, Telephone: (46) 8-509-031-00, Fax: (46) 8-509-031-01

Italy: Hamamatsu Photonics Italia S.R.L.: Strada della Moia, 1/E, 20020 Arese, (Milano), Italy, Telephone: (39) 02-935-81-733, Fax: (39) 02-935-81-741

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. ©2002 Hamamatsu Photonics K.K.