

PHOTODIODE

Si PIN photodiode

S2721-02, S3096-02, S4204, S8703

Dual-element, plastic package photodiode



S2721-02, S3096-02, S4204 and S8703 are dual-element Si PIN photodiodes molded into small plastic packages. Having high sensitivity and low noise, these photodiodes have very low cross-talk between the elements.

Custom devices (with different element shapes, number of elements, characteristics and packages) are also available to meet your specific needs. Please feel free to contact our sales office.

Features

- High sensitivity
- Uniform element sensitivity
- Low cross-talk
- Low noise

Applications

- CD, DVD, MO (Magneto-Optical disc) signal pickups
- Laser beam alignment
- Various position detection applications

General ratings / Absolute maximum ratings

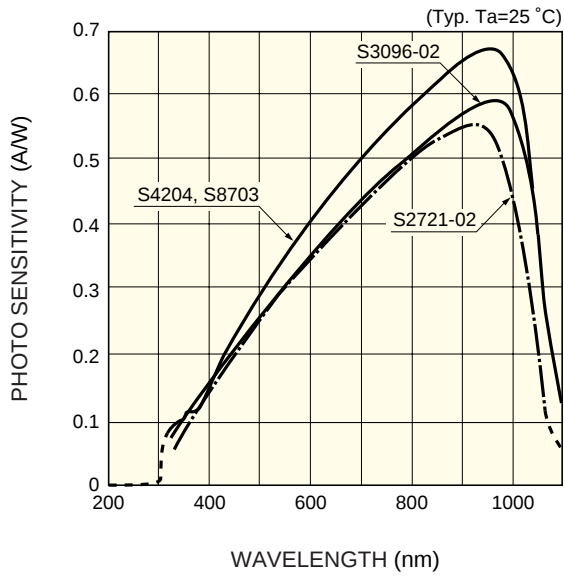
Type No.	Dimensional outline	Active area (mm)	Element gap (μm)	Absolute maximum ratings		
				Reverse voltage VR Max. (V)	Operating temperature Topr (°C)	Storage temperature Tstg (°C)
S2721-02	①	1 × 3 / 2 elements	5	20	-25 to +85	-40 to +100
S3096-02	②	1.2 × 3 / 2 elements	30			
S4204	③	1 × 2 / 2 elements	20			
S8703	④					

Electrical and optical characteristics (Typ. Ta=25 °C, unless otherwise noted, per 1 element)

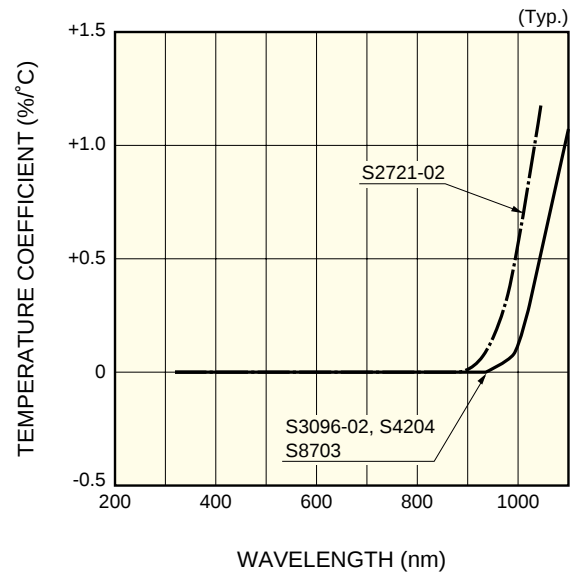
Type No.	Spectral response range λ	Peak sensitivity wavelength λ_p	Photo sensitivity $\lambda=\lambda_p$	Dark current I_D $V_R=10\text{ V}$ all elements		Temp. coefficient of I_D T_{CID}	Cut-off frequency f_c $V_R=10\text{ V}$ $R_L=50\ \Omega$ $\lambda=780\text{ nm}$ -3 dB	Terminal capacitance C_t $V_R=10\text{ V}$ $f=1\text{ MHz}$	NEP $V_R=10\text{ V}$	
				Typ. (nA)	Max. (nA)					
		(nm)	(nm)	(A/W)			(times/ $^{\circ}\text{C}$)	(MHz)	(pF)	(W/Hz ^{1/2})
S2721-02	320 to 1060	900	0.56	0.1	2.0	1.15	50	5	6.4×10^{-15}	
S3096-02			0.58	0.05	0.5		25		7.2×10^{-15}	
S4204			0.65	0.1	1.0		30	3	8.7×10^{-15}	
S8703										

Si PIN photodiode S2721-02, S3096-02, S4204, S8703

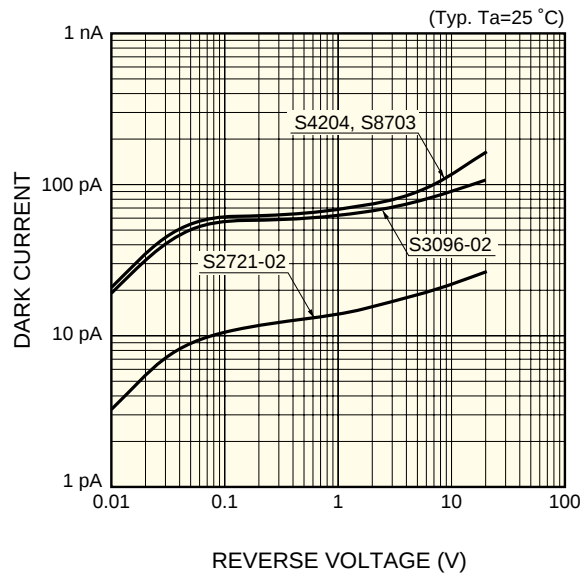
■ Spectral response



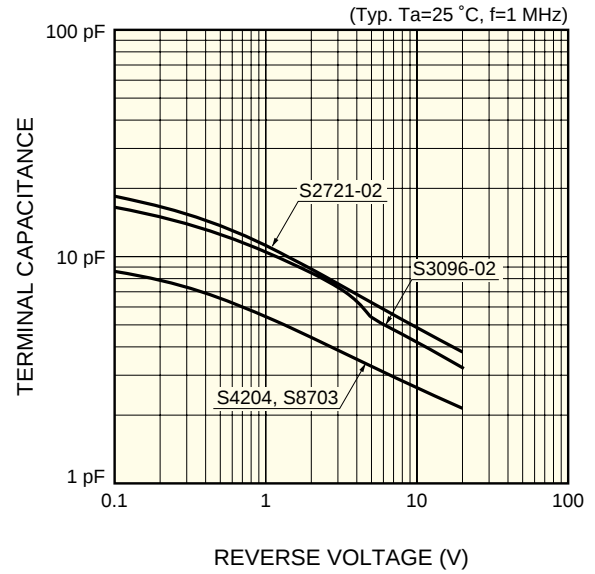
■ Photo sensitivity temperature characteristics



■ Dark current vs. reverse voltage



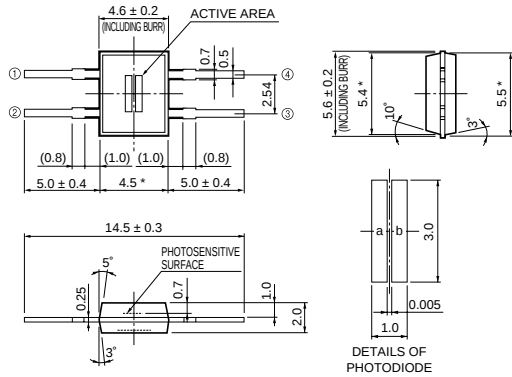
■ Terminal capacitance vs. reverse voltage



Si PIN photodiode S2721-02, S3096-02, S4204, S8703

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

① S2721-02

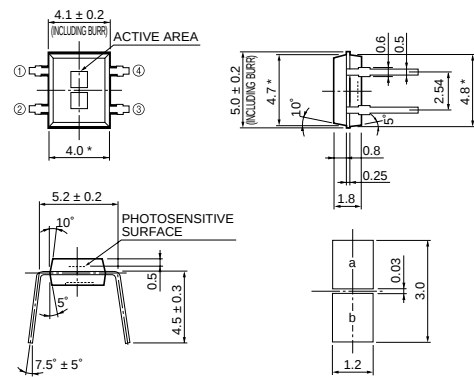


- ① ANODE a
- ② CATHODE COMMON
- ③ ANODE b
- ④ CATHODE COMMON

Chip position accuracy with respect to the package dimensions marked *
X, Y $\leq \pm 0.2$
 $\theta \leq \pm 2^\circ$

KMPDA0118EA

② S3096-02

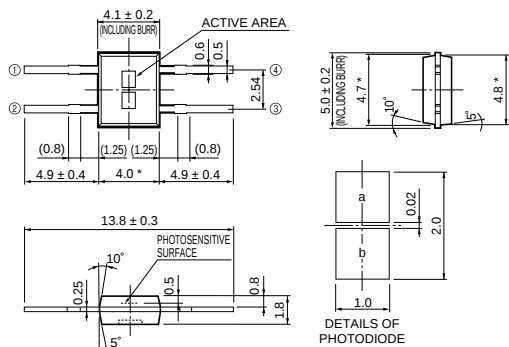


- ① ANODE a
- ② CATHODE COMMON
- ③ ANODE b
- ④ CATHODE COMMON

Chip position accuracy with respect to the package dimensions marked *
X, Y $\leq \pm 0.2$
 $\theta \leq \pm 2^\circ$

KMPDA0119EA

③ S4204

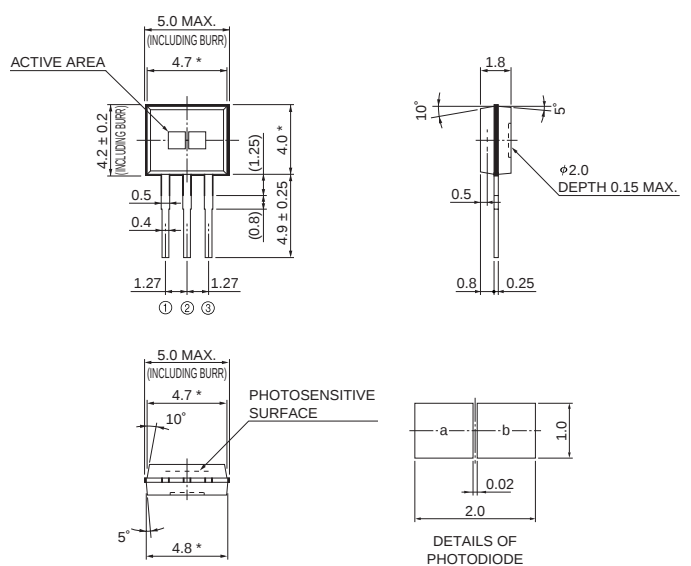


- ① ANODE a
- ② CATHODE COMMON
- ③ ANODE b
- ④ CATHODE COMMON

Chip position accuracy with respect to the package dimensions marked *
X, Y $\leq \pm 0.2$
 $\theta \leq \pm 2^\circ$

KMPDA0120EA

④ S8703



- ① ANODE a
- ② CATHODE COMMON
- ③ ANODE b

Shaded area indicates burr.
Chip position accuracy with respect to the package dimensions marked *
X, Y $\leq \pm 0.2$
 $\theta \leq \pm 2^\circ$

KMPDA0181EA

HAMAMATSU

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, <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.: 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

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

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. ©2003 Hamamatsu Photonics K.K.