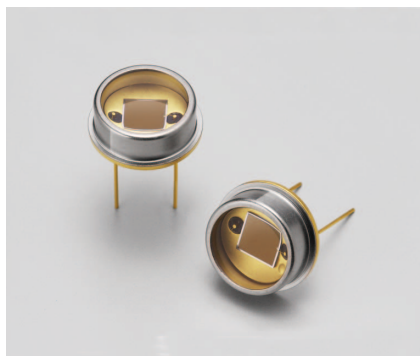


Si PIN photodiode

S9195



Si PIN photodiode for violet-laser detection

The S9195 is a Si PIN photodiode designed to have enhanced sensitivity in the emission wavelength range of violet-lasers. A high-speed response is achieved despite the large photosensitive area.

Features

- High sensitivity: 0.28 A/W typ. ($\lambda=405$ nm)
- High-speed response: 50 MHz typ. ($V_R=10$ V)
- Photosensitive area: 5.0 × 5.0 mm
- TO-8 metal package

Applications

- Violet-laser detection and monitor

Absolute maximum ratings

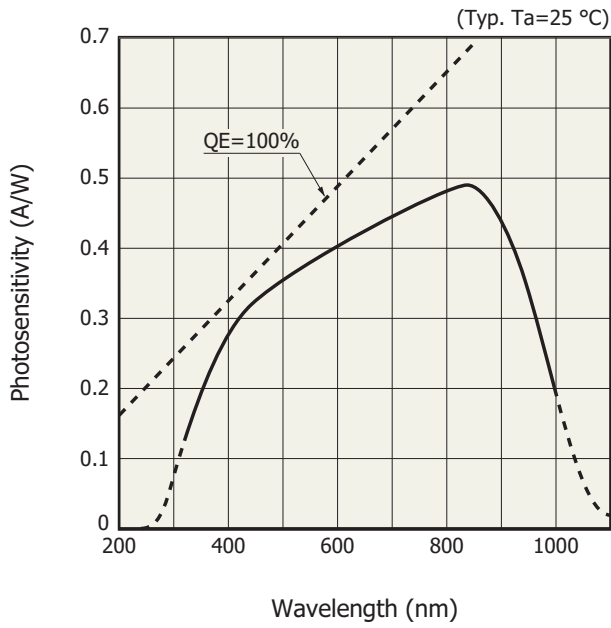
Parameter	Symbol	Value	Unit
Reverse voltage	V_R max	20	V
Operating temperature	T_{opr}	-40 to +100	°C
Storage temperature	T_{stg}	-55 to +125	°C

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 ($T_a=25$ °C)

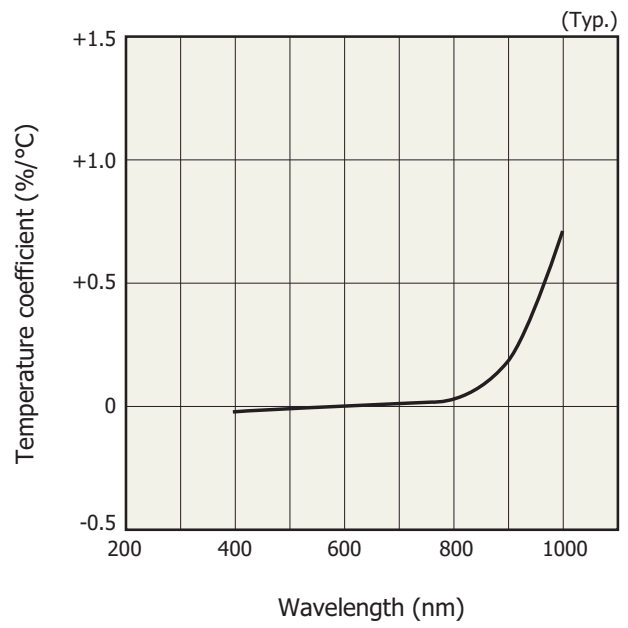
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Spectral response range	λ		-	320 to 1000	-	nm
Peak sensitivity wavelength	λ_p		-	840	-	nm
Photosensitivity	S	$\lambda=405$ nm	0.25	0.28	-	A/W
Dark current	I_D	$V_R=10$ V	-	0.5	5	nA
Terminal capacitance	C_t	$V_R=10$ V, $f=1$ MHz	-	60	80	pF
Cutoff frequency	f_c	$V_R=10$ V, $R_L=50$ Ω $\lambda=405$ nm, -3 dB	30	50	-	MHz
Noise equivalent power	NEP	$V_R=10$ V, $\lambda=\lambda_p$		2.5×10^{-14}	-	W/Hz ^{1/2}

Spectral response



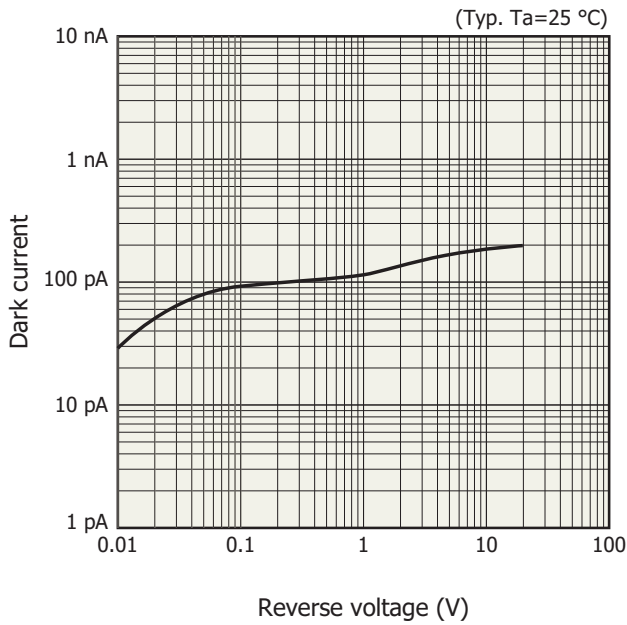
KPINB0289EB

Photosensitivity temperature characteristics



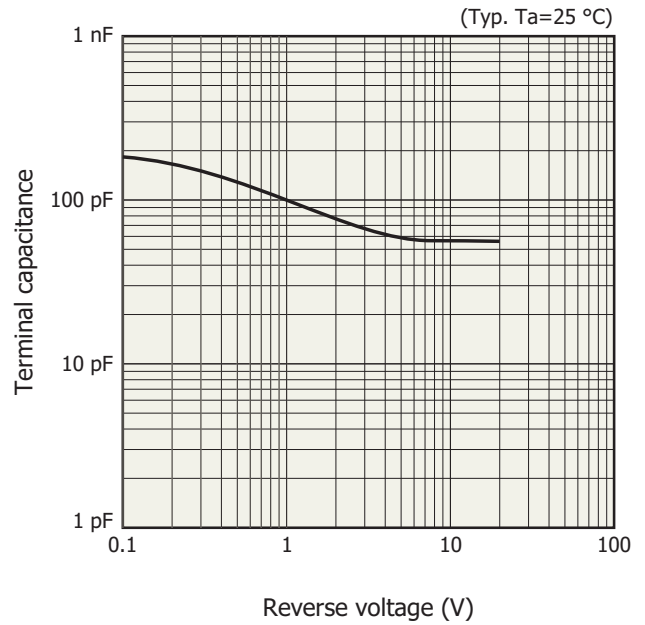
KPINB0290EB

Dark current vs. reverse voltage



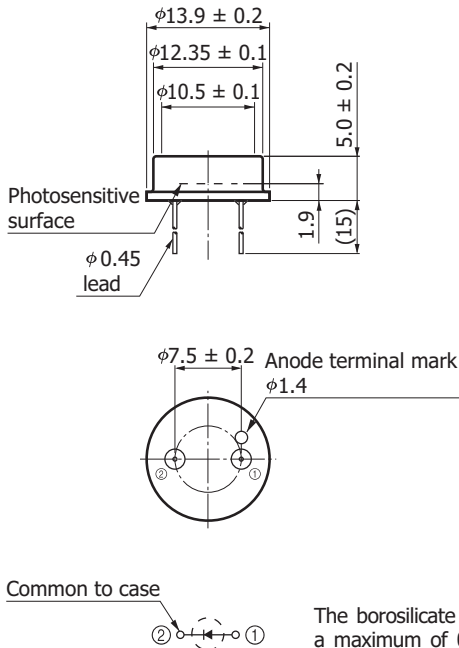
KPINB0291EB

Terminal capacitance vs. reverse voltage



KPINB0292EB

Dimensional outline (unit: mm)



KPINA0094EB

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 September 2017.

Product specifications are subject to change without prior notice due to improvements or other reasons. This document has been carefully prepared and the information contained is believed to be accurate. In rare cases, however, there may be inaccuracies such as text errors. Before using these products, always contact us for the delivery specification sheet to check the latest specifications.

The product warranty is valid for one year after delivery and is limited to product repair or replacement for defects discovered and reported to us within that one year period. However, even if within the warranty period we accept absolutely no liability for any loss caused by natural disasters or improper product use. Copying or reprinting the contents described in this material in whole or in part is prohibited without our prior permission.

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. 08807, 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, Beijing 100020, 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)03-659-0080, Fax: (886)03-659-0081, E-mail: info@tw.hpk.co.jp