

Si photodiode S7686

Photodiode with sensitivity close to spectral luminous efficiency



S7686 is a Si photodiode having a spectral response characteristic that is more similar to the human eye sensitivity (spectral luminous efficiency) than our conventional visible-compensated sensors (S1133, etc.).

Features

- Spectral response analogous to CIE spectral luminous efficiency
Spectral response range: 480 to 660 nm
Peak sensitivity wavelength: 550 nm
- Ceramic package for reliability
- Active area: 2.4×2.8 mm
- High-speed response: $0.5 \mu\text{s}$ ($V_R=0$ V, $R_L=1$ k Ω)
- fs value: 8 % Typ. (vertical light input)

Applications

- Illuminometer
- Luminance meter

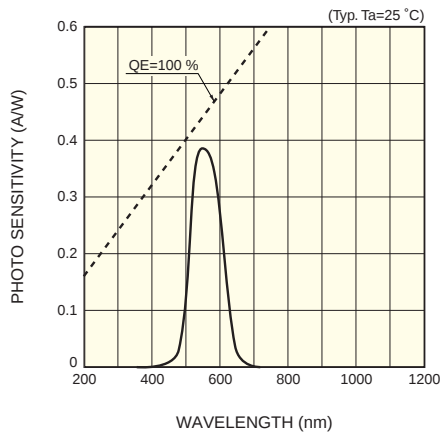
■ Absolute maximum ratings ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Reverse voltage	V_R Max.	10	V
Operating temperature	T_{opr}	-10 to +60	$^\circ\text{C}$
Storage temperature	T_{stg}	-20 to +70	$^\circ\text{C}$

■ Electrical and optical characteristics ($T_a=25^\circ\text{C}$)

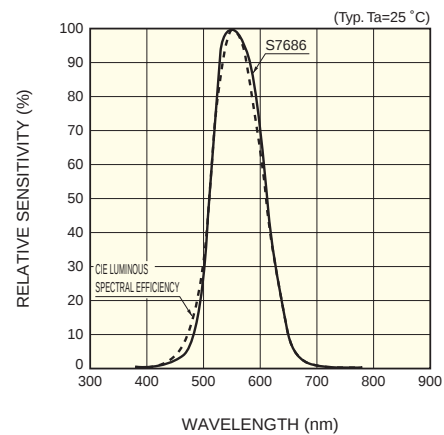
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Spectral response range	λ		-	480 to 660	-	nm
Peak sensitivity wavelength	λ_p		-	550	-	nm
Photo sensitivity	S	$\lambda=\lambda_p$	-	0.38	-	A/W
Short circuit current	I_{sc}	100 lx, 2856 K	-	0.45	-	μA
Dark current	I_D	$V_R=1$ V	-	2	20	pA
Rise time	t_r	$V_R=0$ V, $R_L=1$ k Ω	-	0.5	-	μs
Terminal capacitance	C_t	$V_R=0$ V, $f=10$ kHz	-	200	-	pF

■ Spectral response



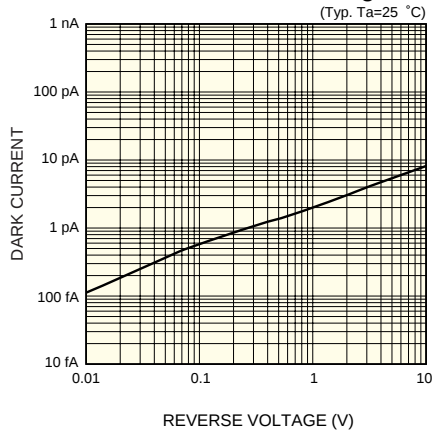
KSPDB0133EB

■ Spectral response (relative value)



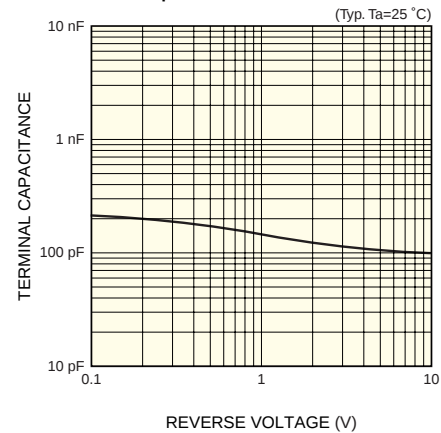
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■ Dark current vs. reverse voltage

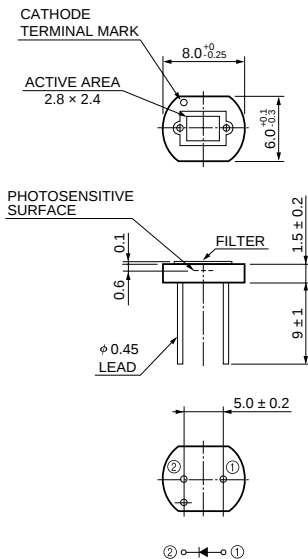


KSPDB0144EA

■ Terminal capacitance vs. reverse voltage



KSPDB0145EA

■ Dimensional outline (unit: mm, tolerance unless otherwise noted: ± 0.15)

KSPDA0089EA

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: 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

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