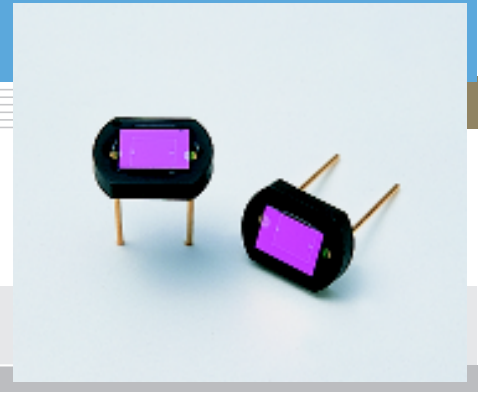


# Si photodiode

## S7686



Photodiode with sensitivity close to the human eye

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

### Features

- Spectral response analogous to CIE luminous spectral 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 μs (V<sub>R</sub>=0 V, R<sub>L</sub>=1 kΩ)
- fs value: 8 % Typ. (vertical light input)

### Applications

- Illuminometer
- Luminance meter

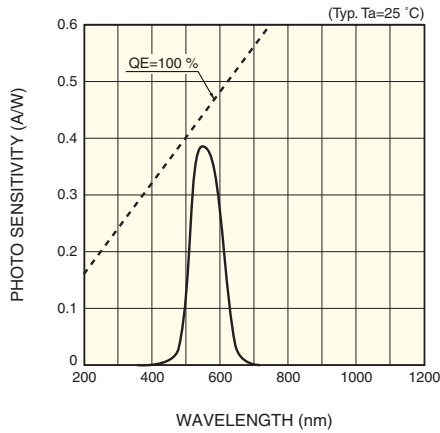
### ■ Absolute maximum ratings (T<sub>a</sub>=25 °C)

Parameter	Symbol	Value	Unit
Reverse voltage	V <sub>R</sub> Max.	10	V
Operating temperature	T <sub>opr</sub>	-10 to +60	°C
Storage temperature	T <sub>stg</sub>	-20 to +70	°C

### ■ Electrical and optical characteristics (T<sub>a</sub>=25 °C)

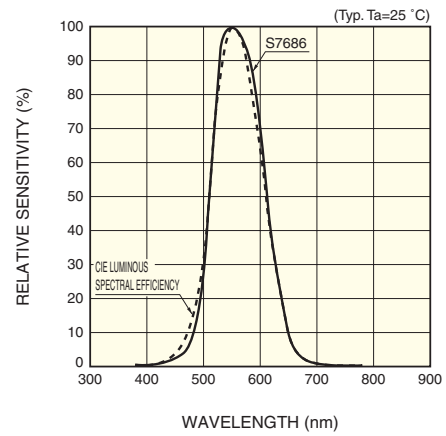
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Spectral response range	λ		-	480 to 660	-	nm
Peak sensitivity wavelength	λ <sub>p</sub>		-	550	-	nm
Photo sensitivity	S	λ=λ <sub>p</sub>	-	0.38	-	A/W
Short circuit current	I <sub>sc</sub>	100 lx, 2856 K	-	0.45	-	μA
Dark current	I <sub>D</sub>	V <sub>R</sub> =1 V	-	2	20	pA
Rise time	t <sub>r</sub>	V <sub>R</sub> =0 V, R <sub>L</sub> =1 kΩ	-	0.5	-	μs
Terminal capacitance	C <sub>t</sub>	V <sub>R</sub> =0 V, f=10 kHz	-	200	-	pF

■ Spectral response



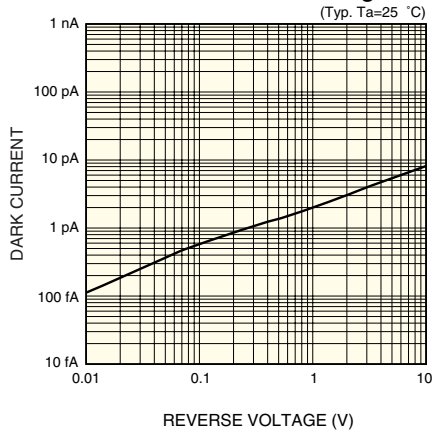
KSPDB0133EB

■ Spectral response (relative value)



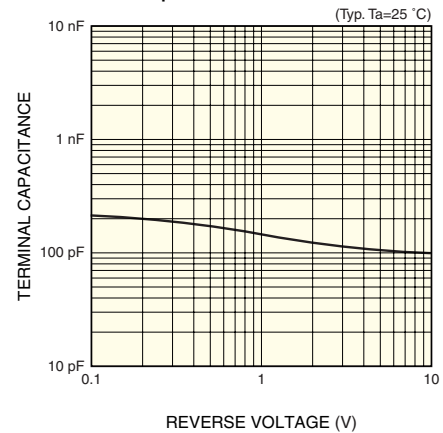
KSPDB0092EB

■ Dark current vs. reverse voltage



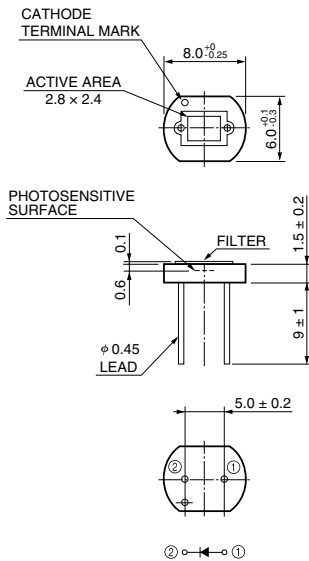
KSPDB0144EA

■ Terminal capacitance vs. reverse voltage



KSPDB0145EA

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



KSPDA0089EA

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