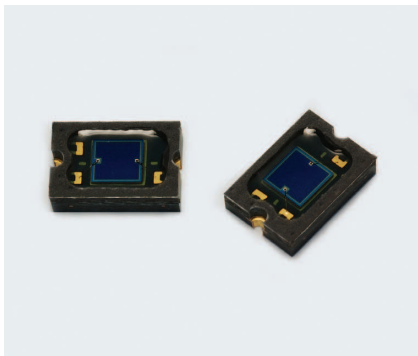


Si photodiode



S9674

Applicable to lead-free solder reflow and wide temperature range

The S9674 is a photodiode that is applicable to lead-free solder reflow and has an extremely wide operating and storage temperature range (-40 to +125 °C). The small and thin leadless package allows reducing the mount area on a printed circuit board.

Features

- Suitable for lead-free solder reflow
- Surface mount type, small and thin leadless package
- Operating/storage temperature: -40 to +125 °C
- Photosensitive area: 2 × 2 mm
- High sensitivity: 0.7 A/W ($\lambda=960$ nm)

Applications

- Rain sensor
- Sun sensor, etc.

Absolute maximum ratings

Parameter	Symbol	Value	Unit
Reverse voltage	V_R max.	10	V
Operating temperature	T_{opr}	-40 to +125	°C
Storage temperature	T_{stg}	-40 to +125	°C
Reflow soldering condition*1	T_{sol}	Peak temperature 260 °C, two times (see page 5)	-

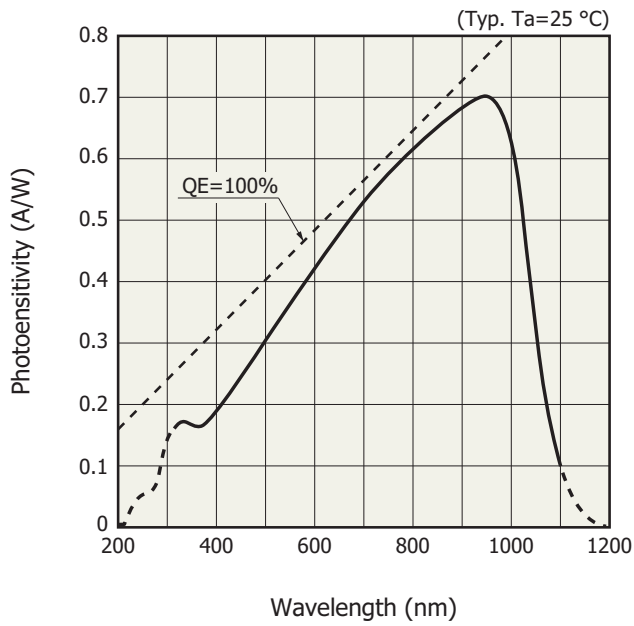
Note: Exceeding the absolute maximum ratings even momentarily may cause a drop in product quality. Always be sure to use the product within the absolute maximum ratings.

*1: JEDEC level 4

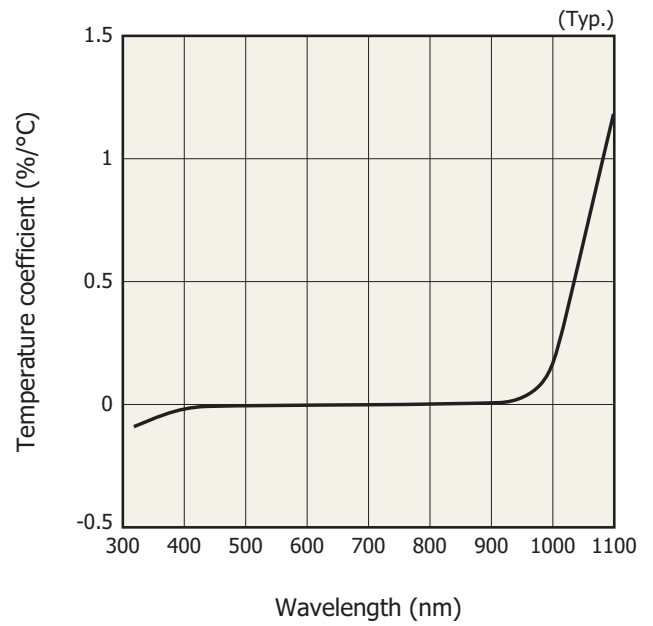
Electrical and optical characteristics (Ta=25 °C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Spectral response range	λ		-	320 to 1100	-	nm
Peak sensitivity wavelength	λ_p		-	960	-	nm
Photo sensitivity	S	$\lambda=\lambda_p$	0.6	0.7	-	A/W
Short circuit current	I_{sc}	100 lx, 2856 K	-	4.8	-	μ A
Temperature coefficient of I_{sc}	-		-	+0.1	-	%/°C
Half-value angle	-		-	± 60	-	degree
Dark current	I_D	$V_R=5$ V	-	0.01	1	nA
Temperature coefficient of I_D	T_{CID}		-	1.12	-	times/°C
Rise time	t_r	$V_R=0$ V, $R_L=1$ k Ω 10 to 90%	-	2	-	μ s
Terminal capacitance	C_t	$V_R=0$ V, $f=10$ kHz	-	500	-	pF

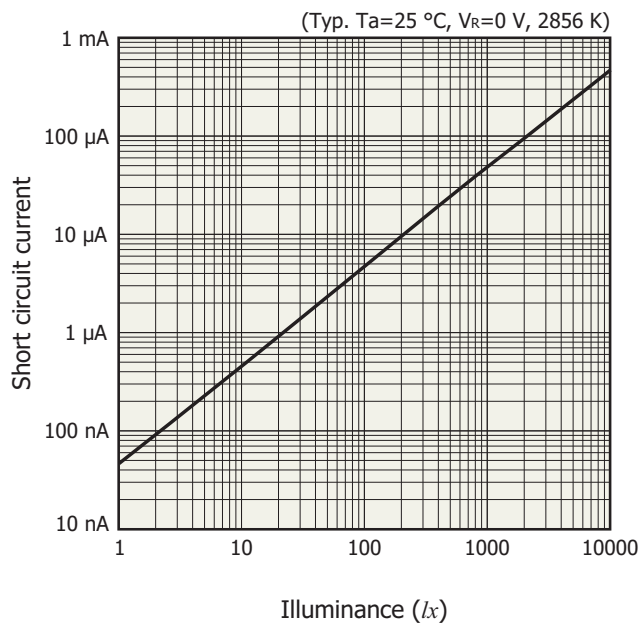
Spectral response



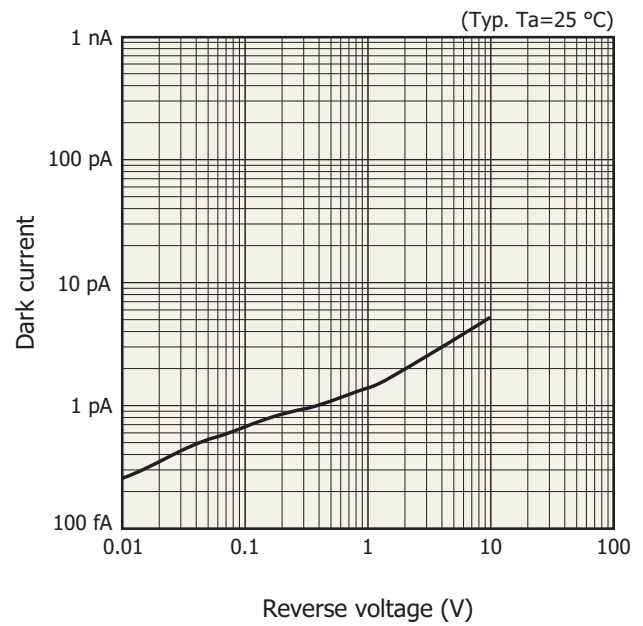
Photosensitivity temperature characteristics



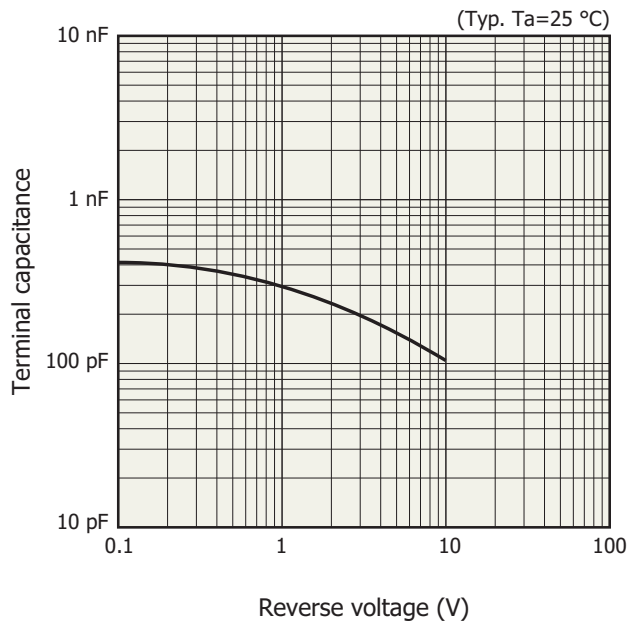
Linearity



Dark current vs. reverse voltage

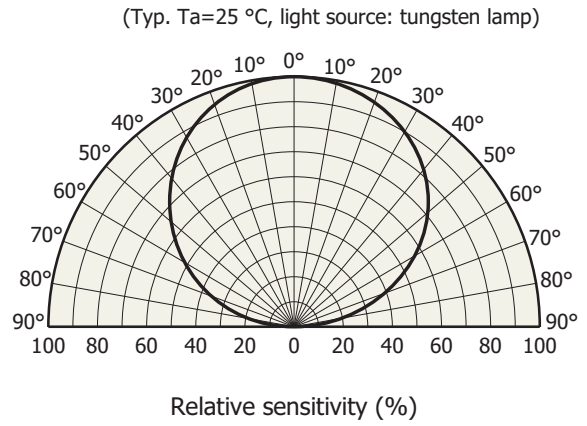


Terminal capacitance vs. reverse voltage



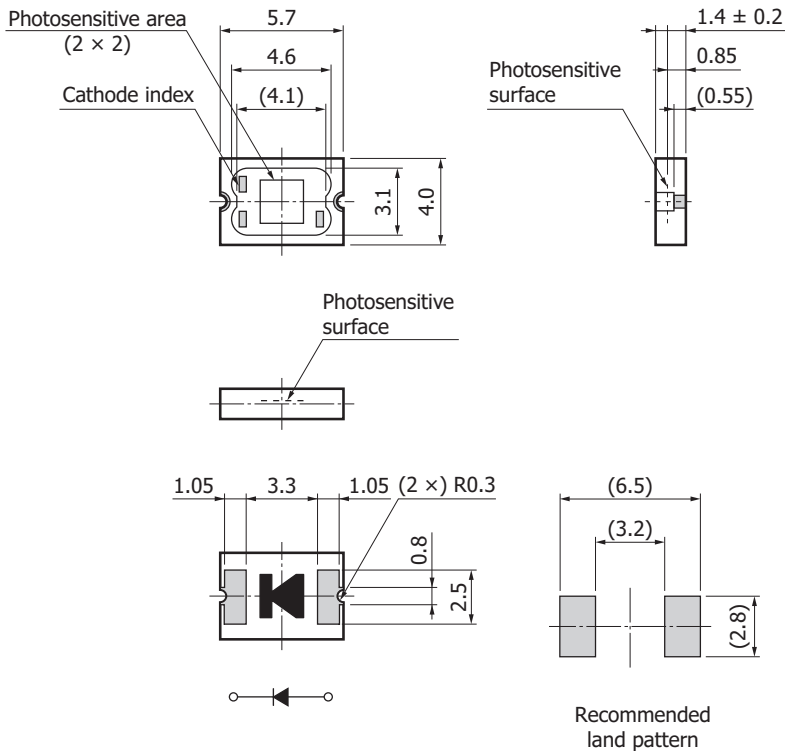
KSPDB0251EA

Directivity



KSPDB0249EA

Dimensional outline (unit: mm)



Tolerance unless otherwise noted: ±0.15, ±2°

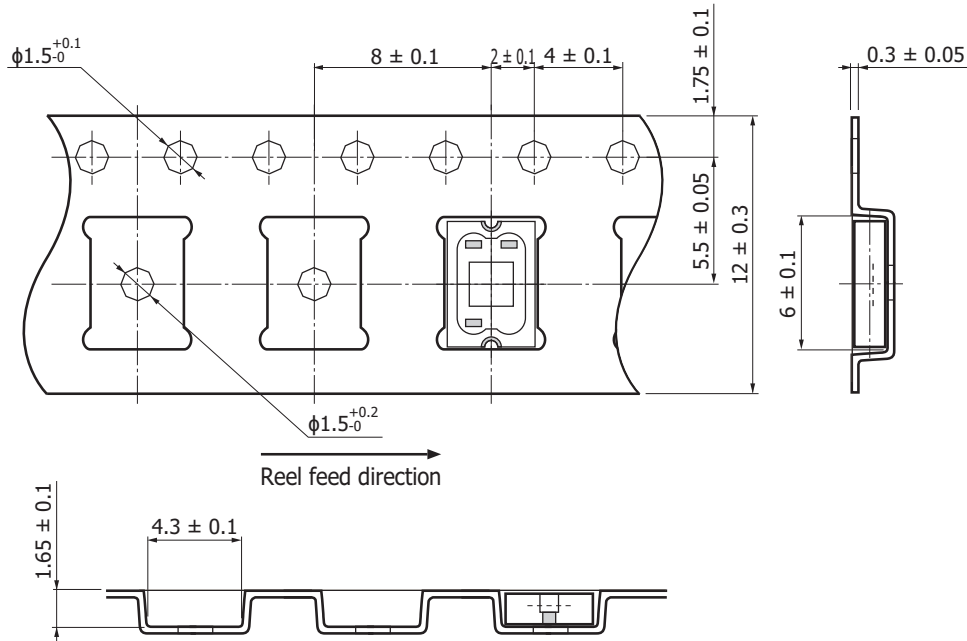
KSPDA0179EC

Standard packing specifications

- Reel (conforms to JEITA ET-7200)

Dimensions	Hub diameter	Tape width	Material	Electrostatic characteristics
254 mm	100 mm	12 mm	Polystyrene	Conductive

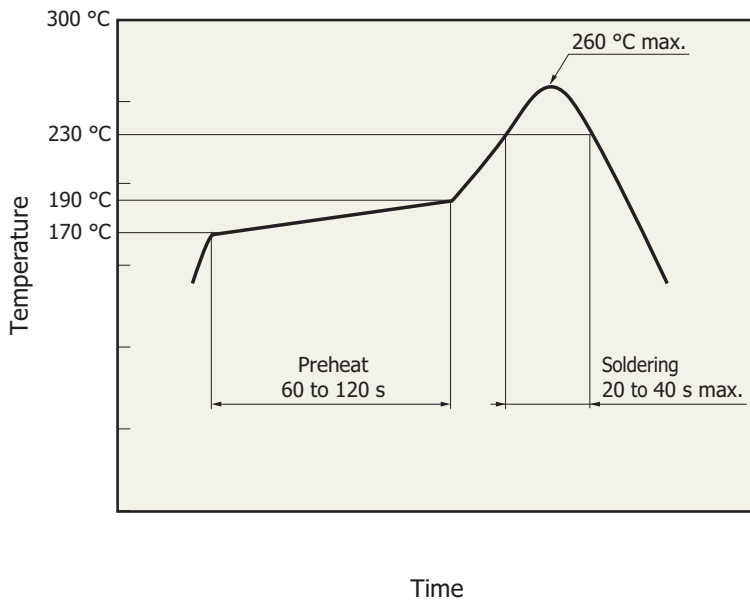
- Embossed tape (unit: mm, material: polystyrene, conductive)



KSPDC0088EA

- Packing quantity
2000 pcs/reel
- Packing type
Reel and desiccant in moisture-proof packaging (vacuum-sealed)

Measured example of temperature profile with our hot-air reflow oven for product testing



KPIN80385EB

- This product supports lead-free soldering. After unpacking, store it in an environment at a temperature of 30 °C or less and a humidity of 60% or less, and perform soldering within 72 hours.
- The effect that the product receives during reflow soldering varies depending on the circuit board and reflow oven that are used. Before actual reflow soldering, check for any problems by testing out the reflow soldering methods in advance.

Related information

www.hamamatsu.com/sp/ssd/doc_en.html

■ Precautions

- Disclaimer
- Surface mount type products

■ Technical information

- Si photodiode / Application circuit examples

Information described in this material is current as of July, 2015.

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.

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