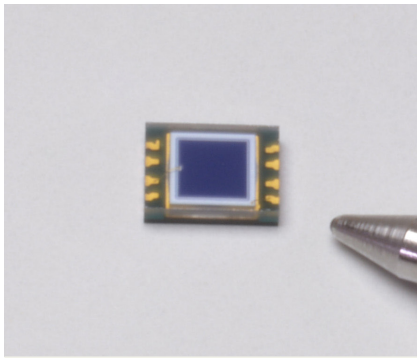


Si photodiode

S16008-33



Photodiode for general photometry in visible to near infrared range

The S16008-33 is a surface mount type Si photodiode with high sensitivity in the visible to near infrared range. This provides higher sensitivity than the previous S2387 series.

Features

- High sensitivity in visible to near infrared range
- Low dark current
- Superior linearity
- Compatible with lead-free solder reflow

Applications

- Analytical equipment
- Optical measurement equipment
- PCR testing equipment

Structure

Parameter	Symbol	Specification	Unit
Photosensitive area	A	2.4 × 2.4	mm
Package	-	Glass epoxy	-
Window material	-	Silicone resin	-

Absolute maximum ratings (Ta=25 °C, unless otherwise noted)

Parameter	Symbol	Condition	Value	Unit
Reverse voltage	VR		30	V
Operating temperature	Topr	No dew condensation*1	-40 to +100	°C
Storage temperature	Tstg	No dew condensation*1	-40 to +100	°C
Soldering temperature	Tsol		260 (3 times)*2	°C

*1: When there is a temperature difference between a product and the surrounding area in high humidity environments, dew condensation may occur on the product surface. Dew condensation may cause deterioration in characteristics and reliability.

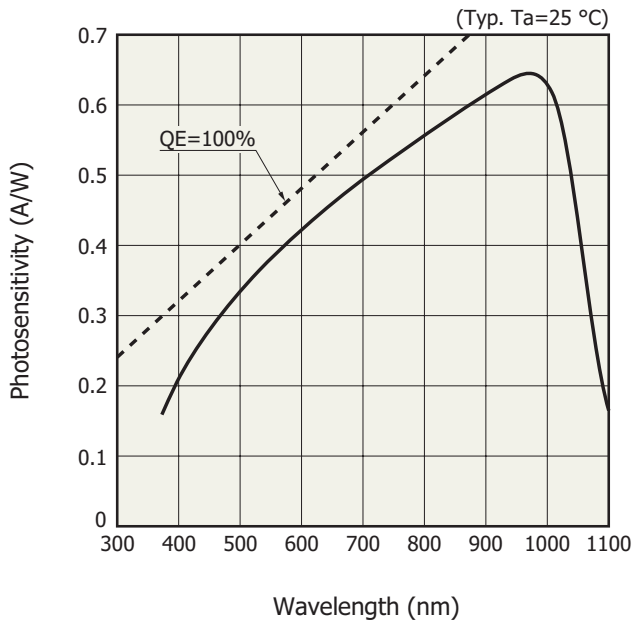
*2: Reflow soldering, JEDEC J-STD-020 MSL 2a, see P.5

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.

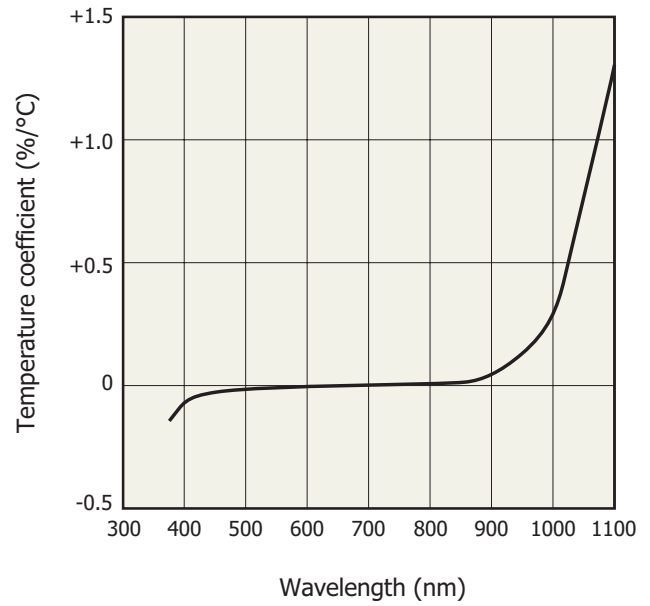
Electrical and optical characteristics (Ta=25 °C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Spectral response range	λ		-	380 to 1100	-	nm
Peak sensitivity wavelength	λ_p		-	960	-	nm
Photosensitivity	S	$\lambda = \lambda_p$	-	640	-	mA/W
Dark current	ID	VR=10 mV	-	0.01	5	pA
Temperature coefficient of ID	ICID		-	1.12	-	times/°C
Rise time	tr	VR=0 V, RL=1 kΩ 10 to 90%	-	1.5	-	μs
Terminal capacitance	Ct	VR=0 V, f=10 kHz	-	700	1000	pF
Shunt resistance	Rsh	VR=10 mV	2	50	-	GΩ
Noise equivalent power	NEP	VR=0 V, $\lambda = \lambda_p$	-	9.0×10^{-16}	-	W/Hz ^{1/2}

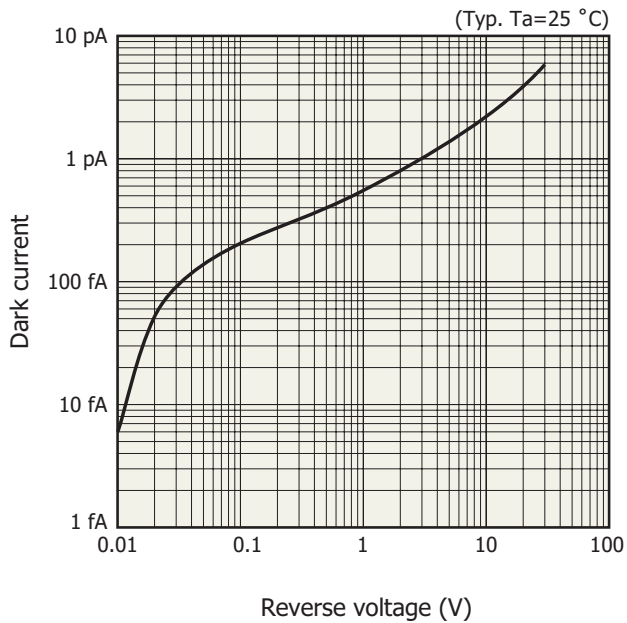
Spectral response



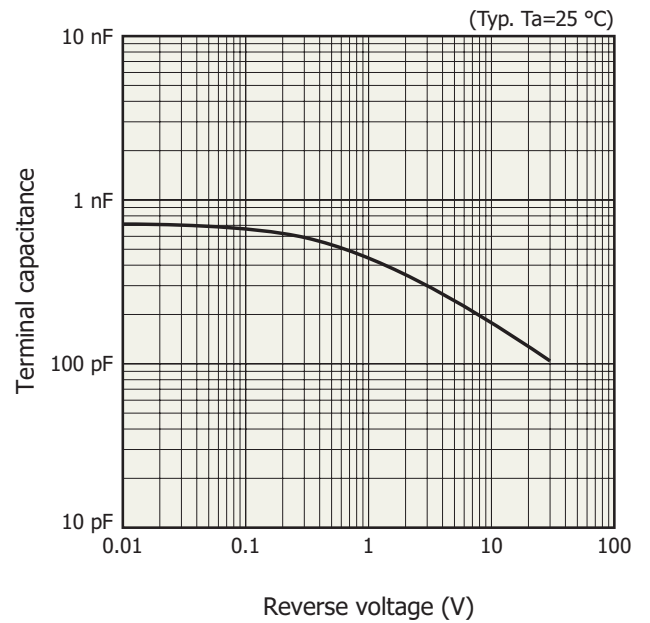
Photosensitivity temperature characteristics



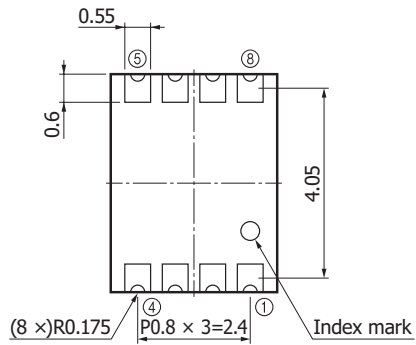
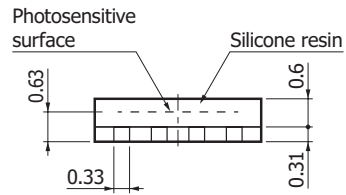
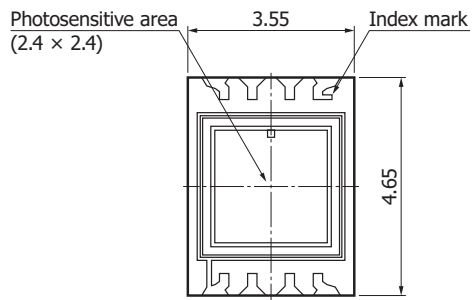
Dark current vs. reverse voltage



Terminal capacitance vs. reverse voltage



Dimensional outline (unit: mm)

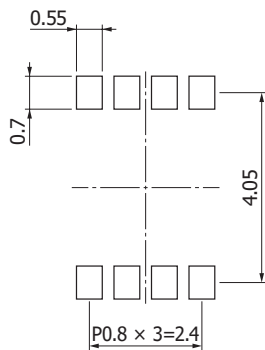


Tolerance unless otherwise noted: ± 0.1
Chip position accuracy with respect to package center: ± 0 .

①	NC
②	NC
③	Anode
④	NC
⑤	Cathode
⑥	NC
⑦	NC
⑧	NC

KSPDA0223EA

Recommended land pattern (unit: mm)



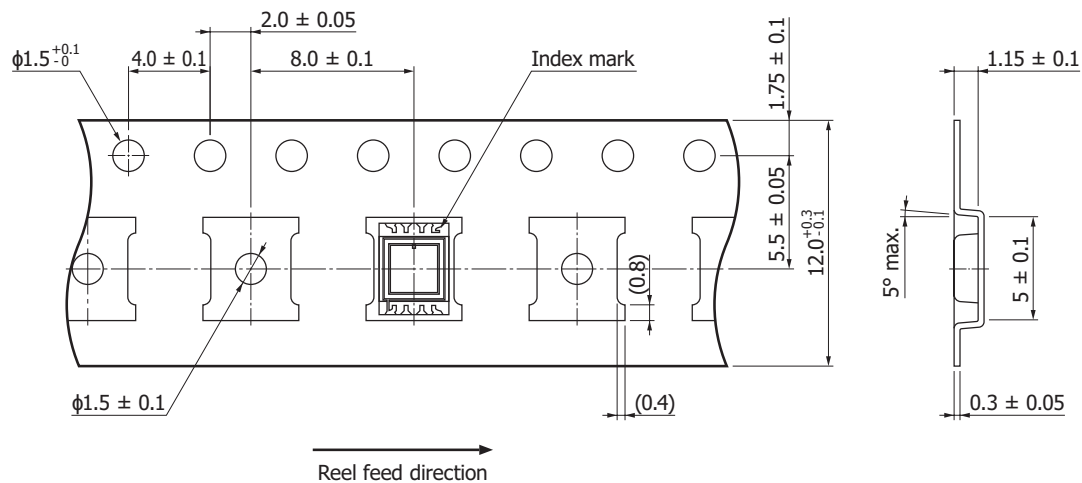
KSPDC0101EA

Standard packing specifications

- Reel (conforms to JEITA ET-7200)

Outer diameter	Hub diameter	Tape width	Material	Electrostatic characteristics
180 mm	60 mm	12 mm	PS	Conductive

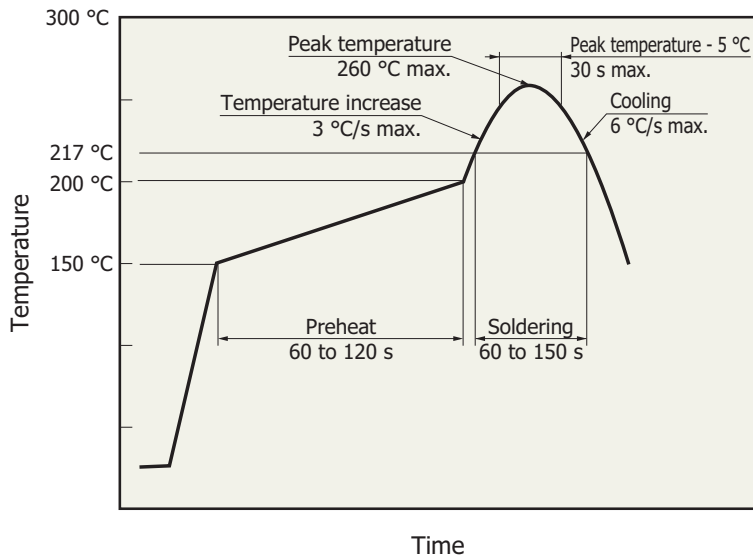
- Embossed tape (unit: mm, material: PS, conductive)



KSPDC0102EA

- Packing quantity
1000 pcs/reel
- Packing state
Reel and desiccant in moisture-proof packaging (vacuum-sealed)

Recommended solder reflow conditions



KMPD80405EC

- After unpacking, keep it in an environment at 30 °C or less and a humidity of 60% or less, and perform soldering within 4 weeks.
- The effect that the product receives during reflow soldering varies depending on the circuit board and reflow oven that are used.
- When you set reflow soldering conditions, check that problems do not occur in the product by testing out the conditions in advance.

Related information

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

Precautions

- Disclaimer
- Surface mount type products

Technical information

- Si photodiodes / Application circuit examples

Information described in this material is current as of January 2021.

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.

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