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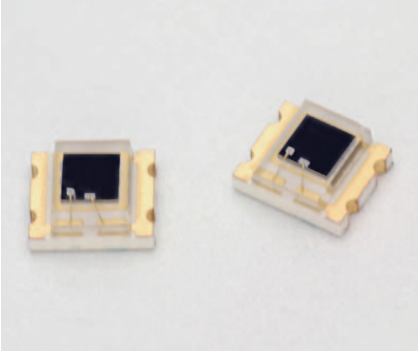
Si photodiode



S10625-01CT

COB type, applicable to lead-free solder reflow

The S10625-01CT is a Si photodiode for visible to near infrared range and is compatible with lead-free solder reflow processes. The small and thin leadless package allows reducing the mount area on a printed circuit board.

Features

- **COB type**
- **Small package: 3.2 × 2.7 × 1.1^{t} mm**
- **Applicable to lead-free solder reflow**
- **Photosensitive area: 1.3 × 1.3 mm**

Applications

- **Optical switches**

Structure

Parameter	Specification	Unit
Photosensitive area	1.3 × 1.3	mm
Package	Glass epoxy	-
Seal material	Epoxy resin	-

Absolute maximum ratings

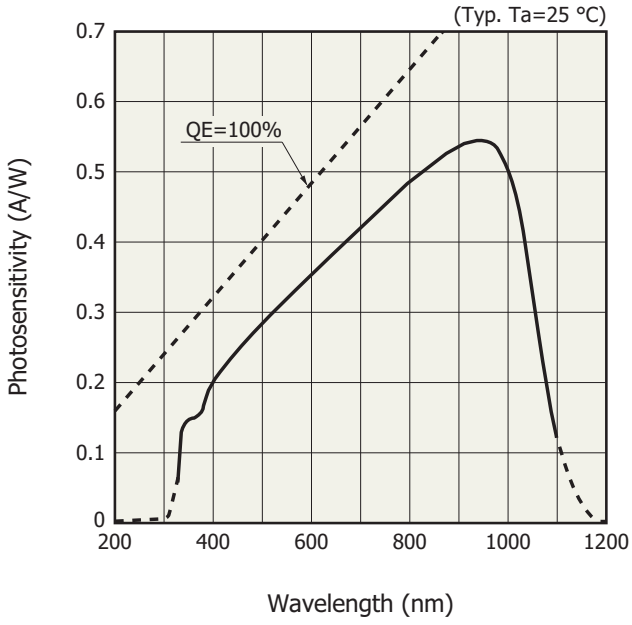
Parameter	Symbol	Condition	Value	Unit
Reverse voltage	V_R max	Ta=25 °C	10	V
Operating temperature	Topr		-25 to +85	°C
Storage temperature	Tstg		-40 to +100	°C
Reflow soldering conditions*1	Tsol		Peak temperature 240 °C max., 1 time (see page 5)	-

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

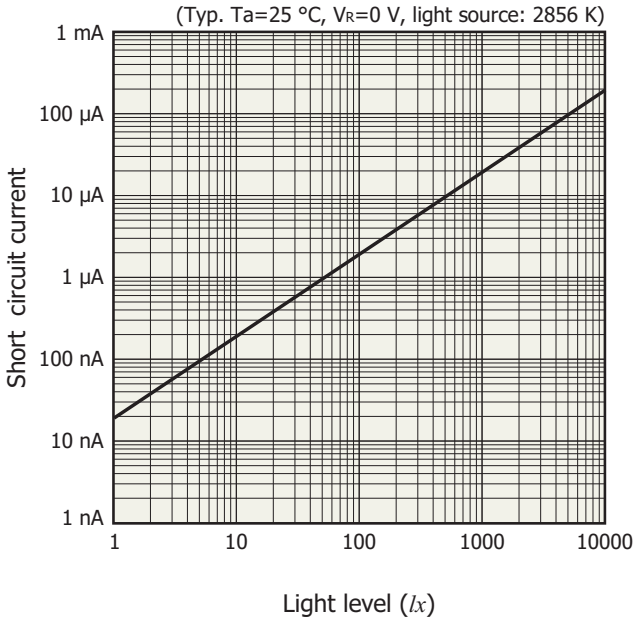
Electrical and optical characteristics (Ta=25 °C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Spectral response range	λ		-	320 to 1100	-	nm
Peak sensitivity wavelength	λp		-	940	-	nm
Photosensitivity	S	λ=λp	-	0.54	-	A/W
Short circuit current	Isc	100 *lx*, 2856K	1.4	1.9	2.4	μA
Dark current	I_D	V_R=1 V	-	0.01	10	nA
Temperature cofficient of I_D	T_{CID}		-	1.12	-	times/°C
Rise time	tr	V_R=0 V, R_L=1 KΩ 10 to 90%	-	0.5	-	μs
Terminal capacitance	Ct	V_R=0 V, f=10 kHz	-	200	400	pF

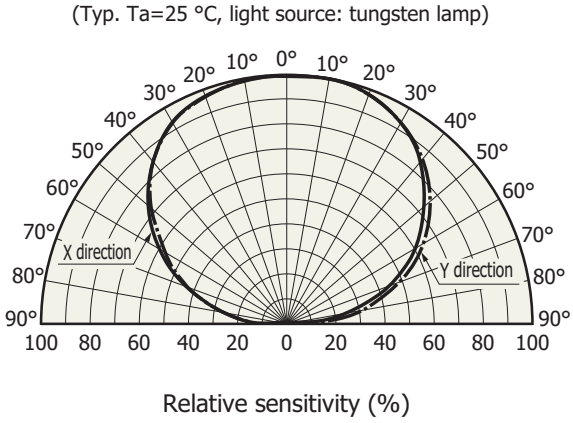
Spectral response

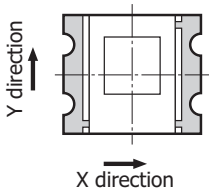


Short circuit current vs. light level



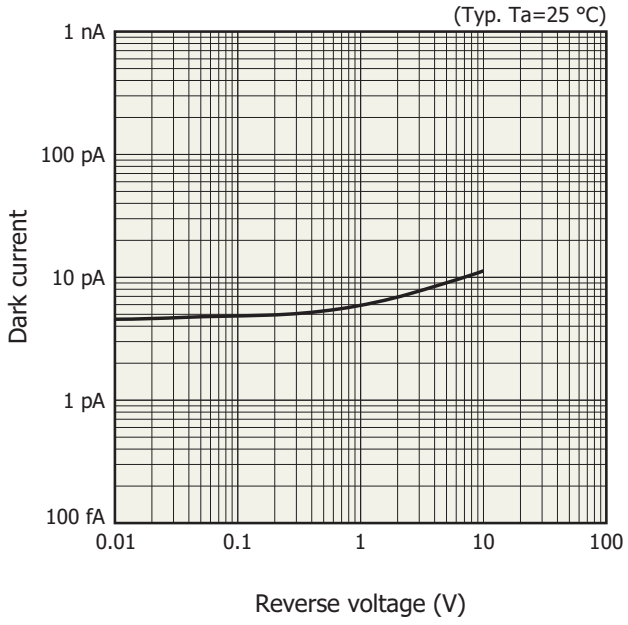
Directivity





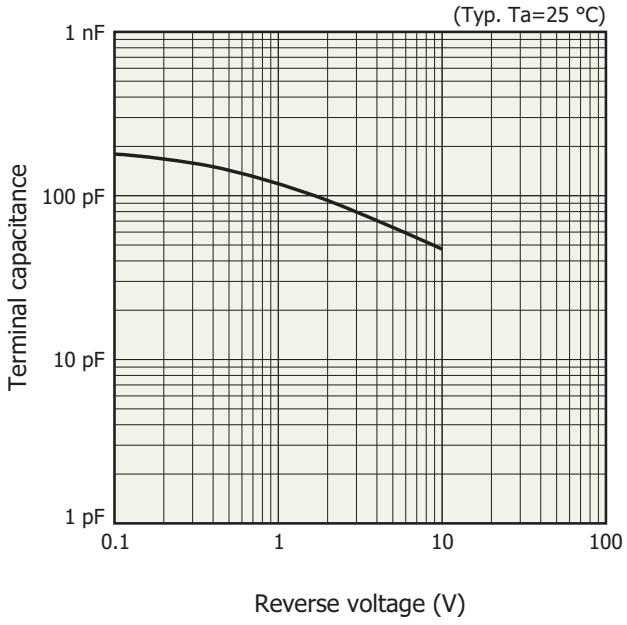
KSPDB0312EA

Dark current vs. reverse voltage



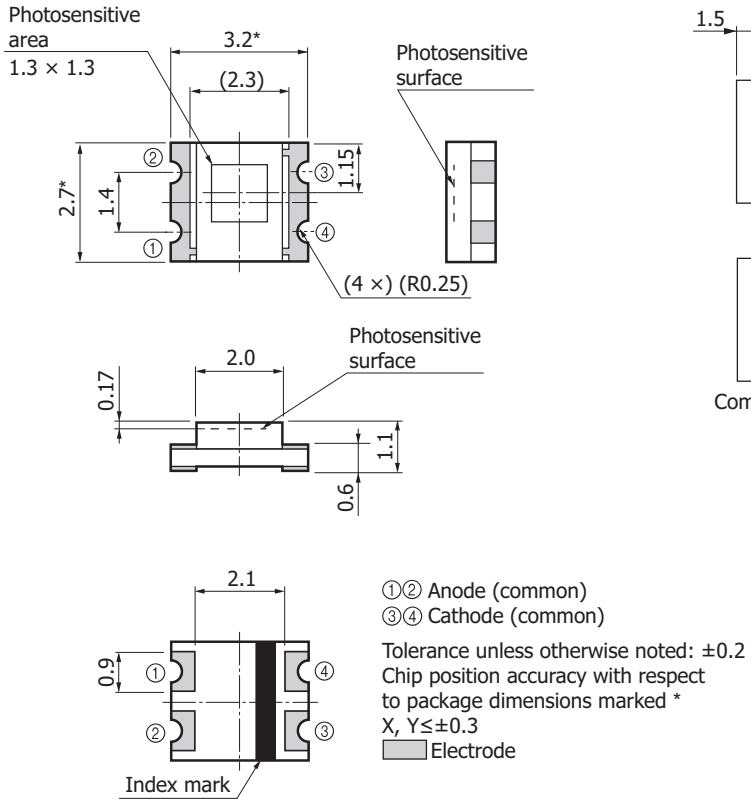
KSPDB0337EA

Terminal capacitance vs. reverse voltage



KSPDB0338EA

Dimensional outlines (unit: mm)

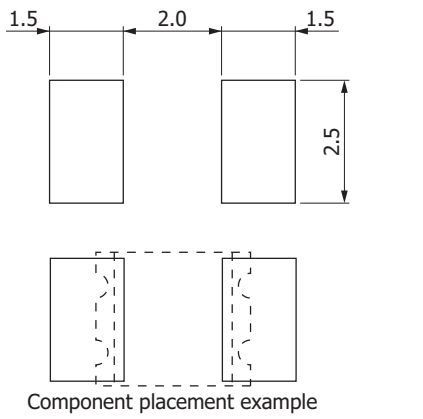


①② Anode (common)
③④ Cathode (common)

Tolerance unless otherwise noted: ±0.2
Chip position accuracy with respect to package dimensions marked *
X, Y≤±0.3
Electrode

KSPDA0207EA

Recommended land pattern (unit: mm)



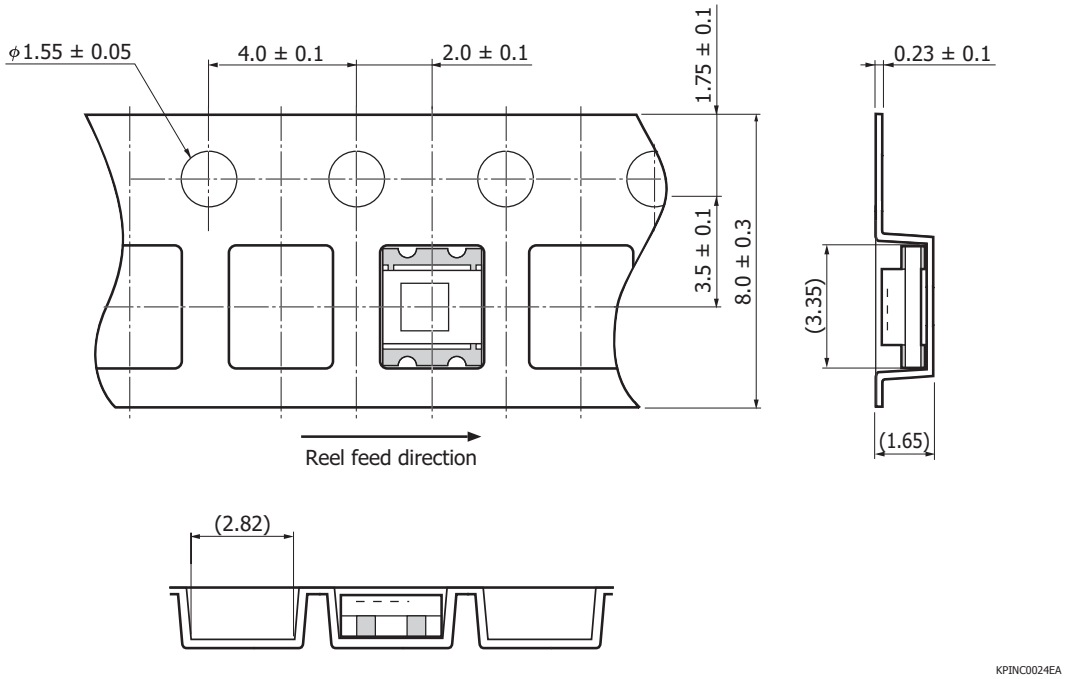
KSPDC0084EA

Standard packing specifications

■ Reel (conforms to JEITA ET-7200)

Dimensions	Hub diameter	Tape width	Material	Electrostatic characteristics
178 mm	60 mm	8 mm	PS	-

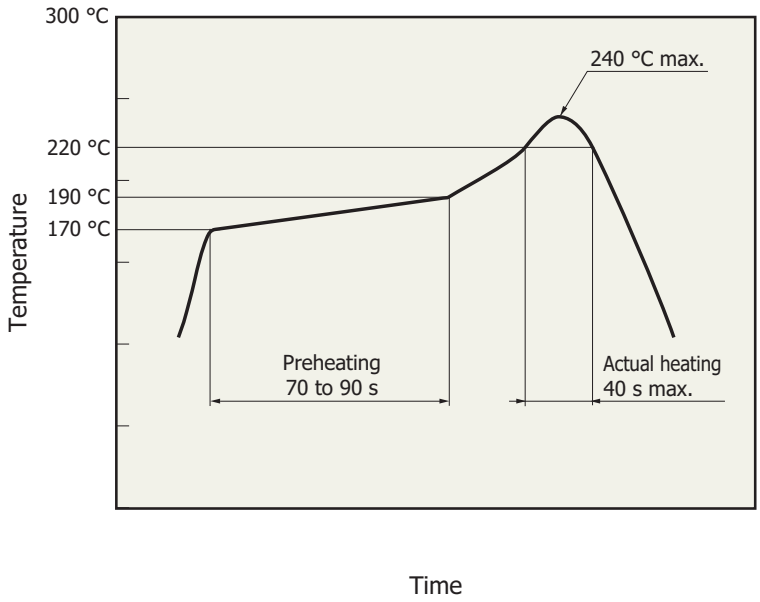
■ Embossed tape (unit: mm, material: PC)



■ 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



- 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 tesitng 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 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.
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