

# 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<sup>t</sup> 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	VR 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)	-

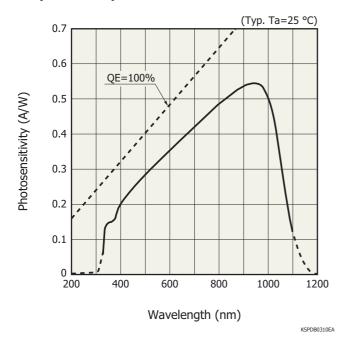
Note: Exceeding the absolute maximum ratings even momentarily may cause a drop in product quality. Always be sure to use the product within the absolute maximum ratings.

### **➡** Electrical and optical characteristics (Ta=25 °C)

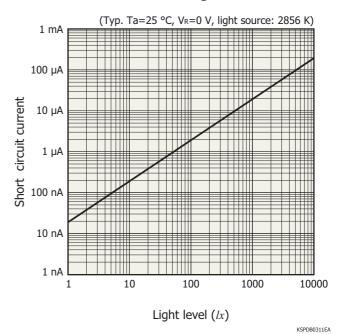
Parameter	Symbol	Condition	Min.	Тур.	Max.	Unit
Spectral response range	λ		-	320 to 1100	-	nm
Peak sensitivity wavelength	λр		-	940	-	nm
Photosensitivity	S	λ=λρ	-	0.54	-	A/W
Short circuit current	Isc	100 lx, 2856K	1.4	1.9	2.4	μA
Dark current	ID	VR=1 V	-	0.01	10	nA
Temperature cofficient of ID	TCID		-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

<sup>\*1:</sup> JEDEC level 4

#### Spectral response

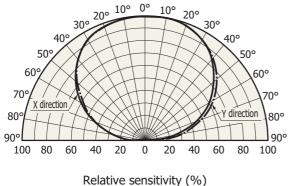


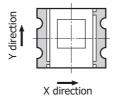
#### - Short circuit current vs. light level



#### Directivity

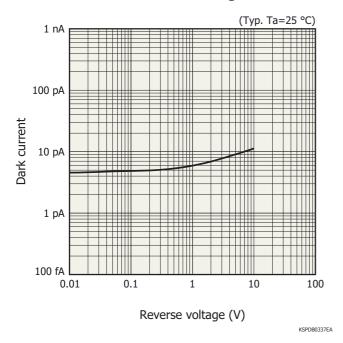
(Typ. Ta=25 °C, light source: tungsten lamp)



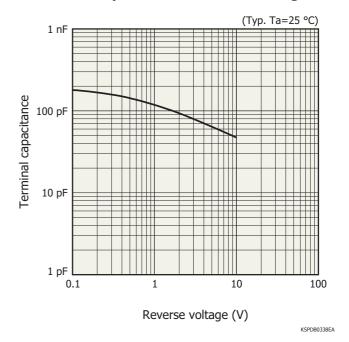


KSPDB0312EA

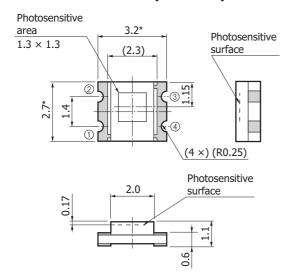
#### Dark current vs. reverse voltage



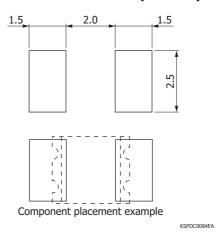
#### Terminal capacitance vs. reverse voltage

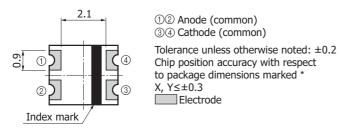


#### **→** Dimensional outlines (unit: mm)



#### **Recommended land pattern (unit: mm)**





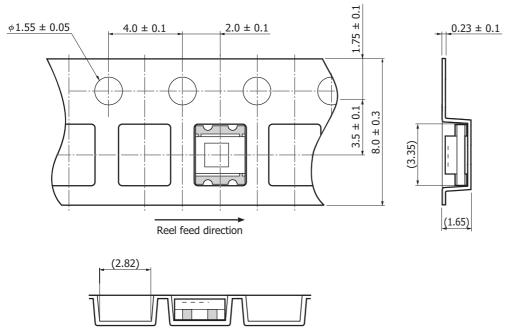
KSPDA0207EA

### 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)

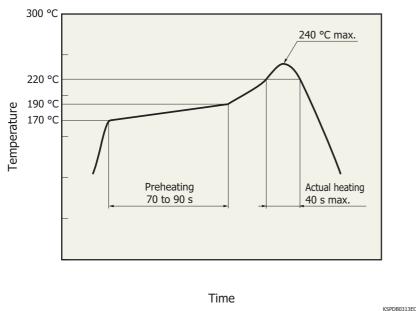


KPINC0024EA

- 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.

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