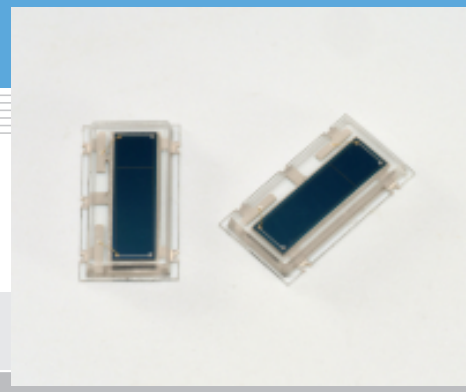


# Si PIN photodiode

## S9345

www.datas

Dual-element photodiode using newly developed small, thin package



S9345 is a dual-element Si PIN photodiode employing a newly developed small, thin plastic package. The cubic volume reduced to one-fifth that of similar type photodiodes using conventional package. In order to extend the detection area when used as a reflection-mode optical switch, the entire photodiode active area of 1.5 mm wide and 5.6 mm long is asymmetrically segmented into 2 longitudinal sections of 1.5 mm and 4.1 mm.

### Features

- Miniature and thin plastic package: 3.4 × 7.0 × 0.95<sup>†</sup> mm
- Surface mounting type
- Asymmetrical dual-element PIN photodiode
- Active area
  - Photodiode a: 1.5 × 1.5 mm
  - Photodiode b: 1.5 × 4.1 mm
- High sensitivity

### Applications

- Optical switch

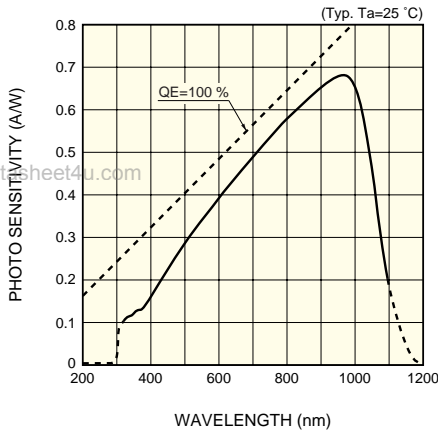
#### ■ Absolute maximum ratings (Ta=25 °C)

Parameter	Symbol	Value	Unit
Maximum reverse voltage	V <sub>R</sub> Max.	20	V
Operating temperature	T <sub>opr</sub>	-25 to +85	°C
Storage temperature	T <sub>stg</sub>	-40 to +100	°C

#### ■ Electrical and optical characteristics (Ta=25 °C, per 1 element)

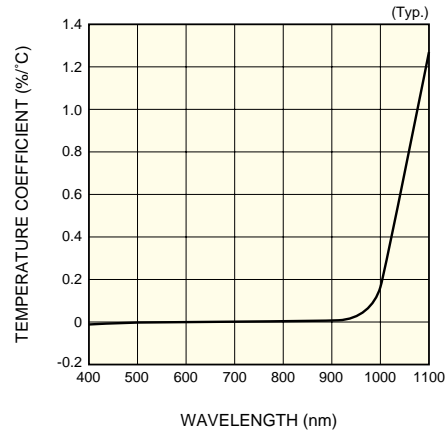
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Spectral response range	$\lambda$		-	320 to 1100	-	nm
Peak sensitivity wavelength	$\lambda_p$		-	960	-	nm
Photo sensitivity	S	$\lambda=780$ nm	0.5	0.55	-	A/W
Short circuit current	Photodiode a	V <sub>R</sub> =0 V, 2856 K, 100 lx	-	2.6	-	$\mu$ A
	Photodiode b		-	7.1	-	
Dark current	I <sub>D</sub>	V <sub>R</sub> =10 V, all elements	-	0.4	5	nA
Terminal capacitance	Photodiode a	V <sub>R</sub> =10 V, f=1 MHz	-	4	8	pF
	Photodiode b		-	10	20	
Cut-off frequency	f <sub>c</sub>	V <sub>R</sub> =10 V, R <sub>L</sub> =50 $\Omega$ $\lambda=780$ nm, -3 dB	7	15	-	MHz

■ Spectral response



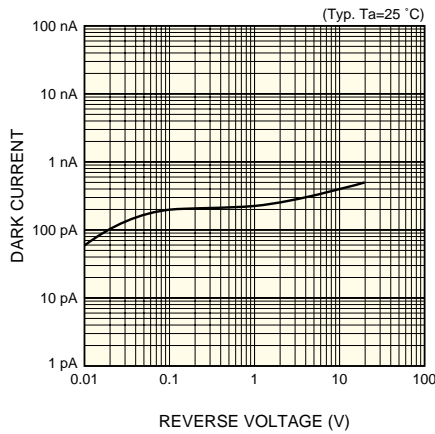
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■ Photo sensitivity temperature characteristic



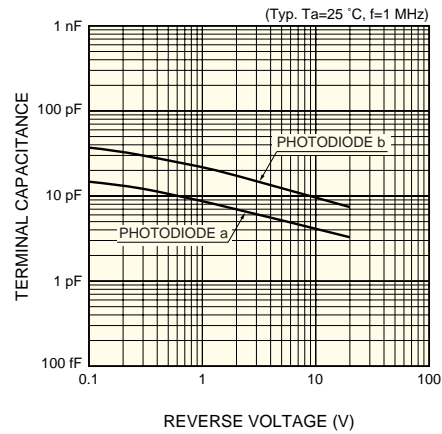
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■ Dark current vs. reverse voltage



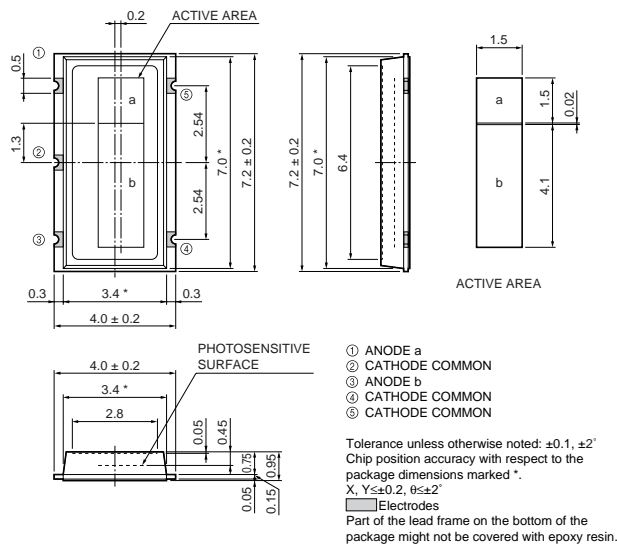
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■ Terminal capacitance vs. reverse voltage



KPINB0296EA

■ Dimensional outline (unit: mm)



KPINA0095EA