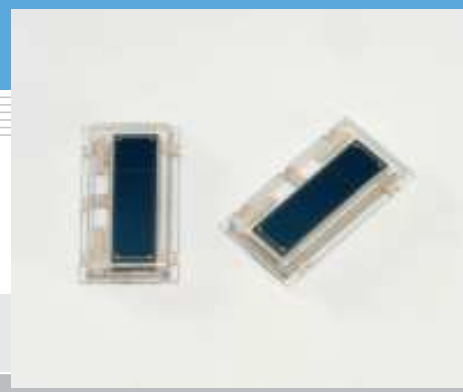


Si PIN photodiode

S9345

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: $3.4 \times 7.0 \times 0.95$ 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 _R Max.	20	V
Operating temperature	T _{opr}	-25 to +85	°C
Storage temperature	T _{stg}	-40 to +100	°C

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

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	$\lambda=780$ nm	0.5	0.55	-	A/W
Short circuit current	Photodiode a	V _R =0 V, 2856 K, 100 lx	-	2.6	-	μ A
	Photodiode b		-	7.1	-	
Dark current	I _D	V _R =10 V, all elements	-	0.4	5	nA
Terminal capacitance	Photodiode a	V _R =10 V, f=1 MHz	-	4	8	pF
	Photodiode b		-	10	20	
Cut-off frequency	f _c	V _R =10 V, R _L =50 Ω $\lambda=780$ nm, -3 dB	7	15	-	MHz

