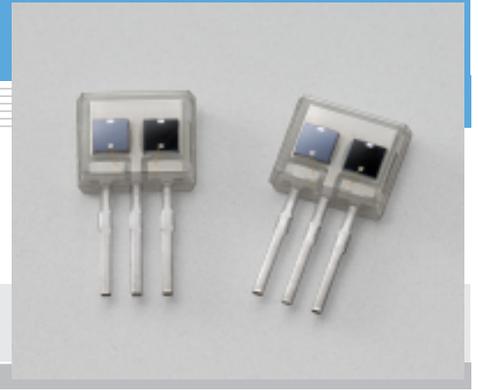


Si photodiode

S8753

Dual-element photodiode (for visible and infrared range)



S8753 is a visible to infrared sensor using a dual-element photodiode molded into a package. S8753 has two photodiodes with different spectral response characteristics to deliver high sensitivity over the visible to infrared range. Package material used in S8753 does not cut visible light, and allows both visible and infrared light to transmit through. The active area size is 1.3 × 1.3 mm (× 2 elements).

Features

- Dual-element Si photodiode (for visible and infrared range)
- High sensitivity in visible to infrared range
- Small, transparent plastic package: 4 × 4.8 × 1.8[†] mm
- 3-pin SIP lead type (lead length: 4.9 mm)
- Active area: 1.3 × 1.3 mm (× 2 elements)

Applications

- Visible and infrared sensors

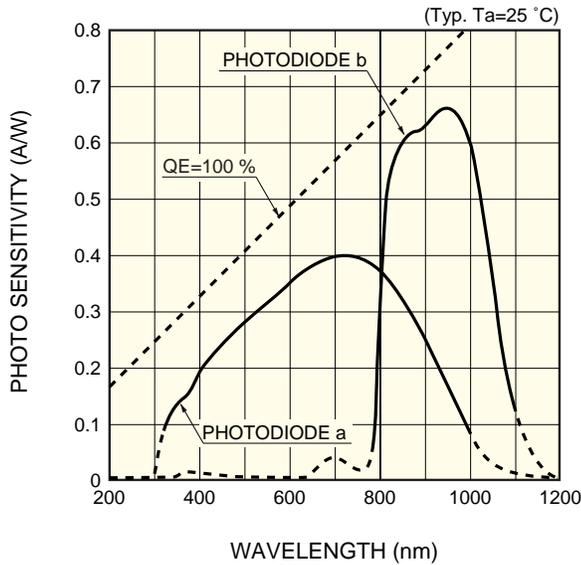
■ Absolute maximum ratings

Parameter	Symbol	Value	Unit
Reverse voltage	V _R Max.	10	V
Operating temperature	T _{opr}	-25 to +85	°C
Storage temperature	T _{stg}	-40 to +100	°C

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

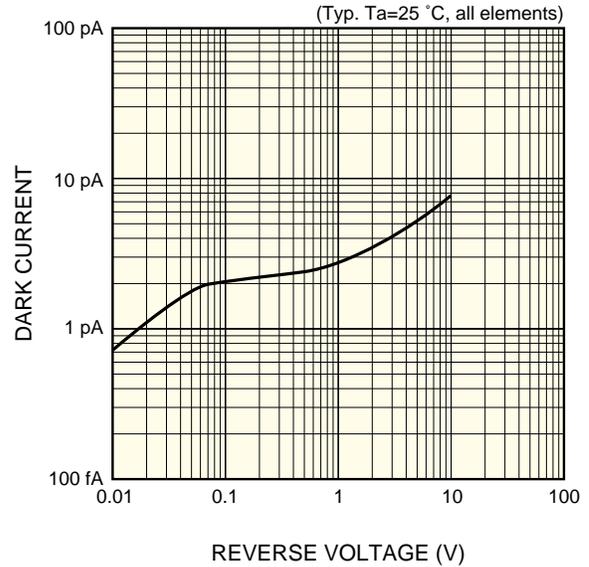
Parameter	Symbol	Condition	Photodiode a			Photodiode b			Unit
			Min.	Typ.	Max.	Min.	Typ.	Max.	
Spectral response range	λ		-	320 to 1000	-	-	780 to 1100	-	nm
Peak sensitivity wavelength	λ_p		-	720	-	-	960	-	nm
Photo sensitivity	S	$\lambda = \lambda_p$	-	0.4	-	-	0.65	-	A/W
Short circuit current	I _{sc}	100 lx, 2856 K	-	1.1	-	-	1.3	-	μA
Dark current	I _D	V _R =1 V, all elements	-	5	100	-	5	100	pA
Temperature coefficient of I _D	T _{CID}		-	1.12	-	-	1.12	-	times/°C
Rise time	t _r	V _R =0 V, R _L =1 kΩ 10 to 90 %	-	0.2	-	-	0.2	-	μs
Terminal capacitance	C _t	f=1 MHz	-	60	120	-	60	120	pF

■ Spectral response



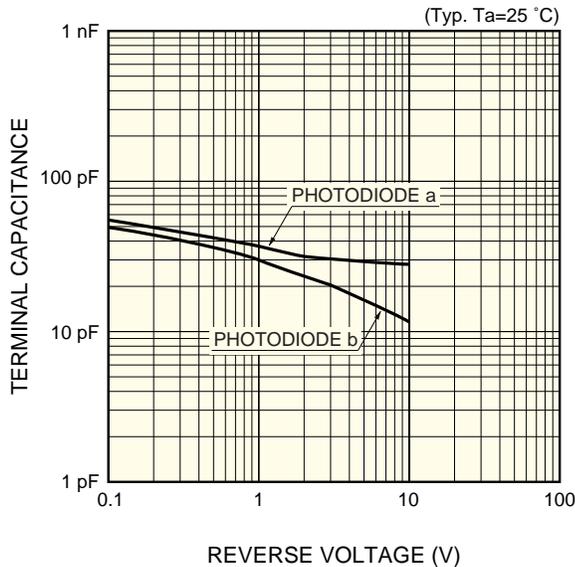
KSPDB0211EB

■ Dark current vs. reverse voltage



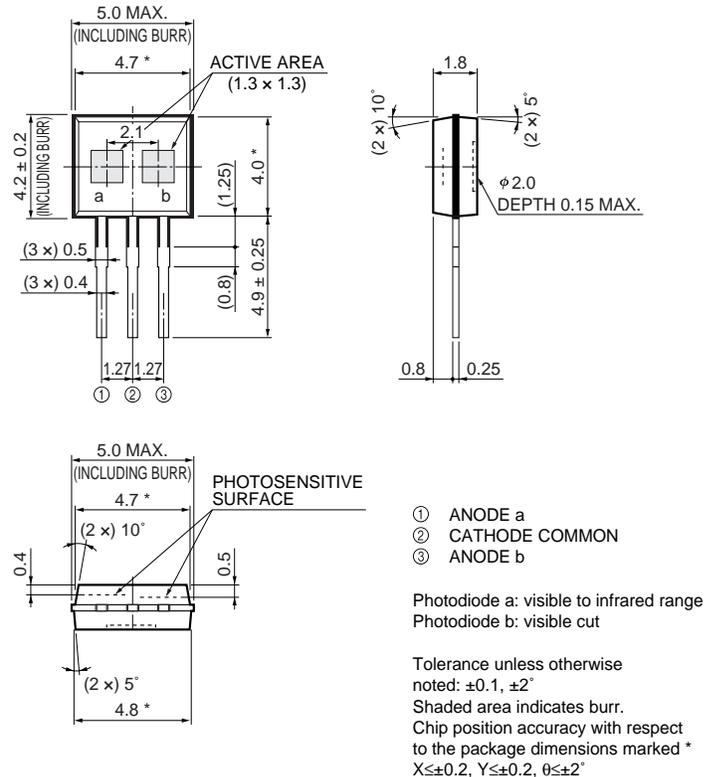
KSPDB0212EA

■ Terminal capacitance vs. reverse voltage



KSPDB0213EA

■ Dimensional outline (unit: mm)



KSPDA0151EA