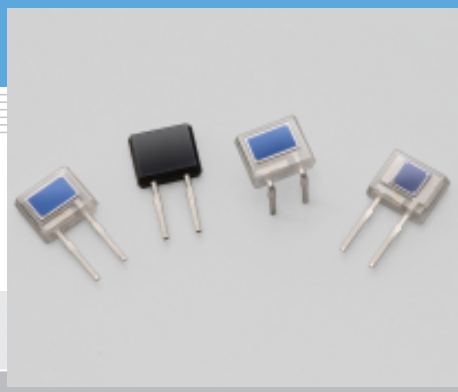


Si PIN photodiode S8385/S8729 series

SIP plastic package



S8385/S8729 series is a family of large area Si PIN photodiodes molded into a miniature plastic SIP package (75 % smaller in cubic volume than conventional types). Also available are lead forming types that save space when mounted on a PC board.

Features

- Small plastic package: $4 \times 4.8 \times 1.8^{\dagger}$ mm
- 2-pin SIP lead type (lead length: 4.9 mm)
- High sensitivity, high speed response
- 2 types of spectral response characteristics available
S8385, S8729, S8729-10: for visible to infrared range ($\lambda=320$ to 1100 nm)
S8385-04, S8729-04: for infrared ($\lambda=760$ to 1100 nm)
- Lead forming type also available (S8729-10)
- Active area
S8385 series: 2×2 mm
S8729 series: 2×3.3 mm

Applications

- Barcode scanners
- Spatial light transmission
- Optical switches
- Laser radar, etc.

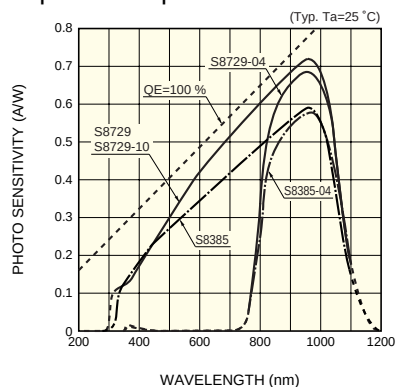
General ratings / Absolute maximum ratings

Type No.	Dimensional outline	Package	Active area size (mm)	Effective active area (mm ²)	Absolute maximum ratings			
					Reverse voltage V _R Max. (V)	Power dissipation P (mW)	Operating temperature T _{opr} (°C)	Storage temperature T _{stg} (°C)
S8385	①	Plastic	2 × 2	4	20	50	-25 to +85	-40 to +100
S8385-04			2 × 3.3	6.6				
S8729								
S8729-04								
S8729-10	②							

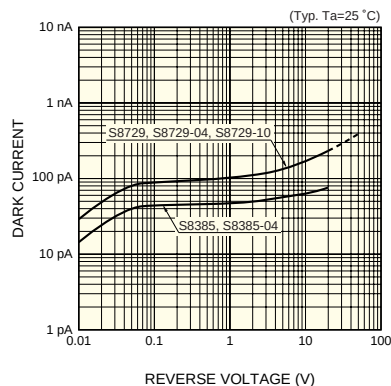
Electrical and optical characteristics

Type No.	Spectral response range λ (nm)	Peak sensitivity wavelength λ_p (nm)	Photo sensitivity S (A/W)				Short circuit current I _{sc} 100 lx (μ A)	Dark current I _D V _R =5 V		Temperature coefficient of I _D T _{CID} (times/° C)	Cut-off frequency f _c V _R =5 V λ =780 nm R _L =50 Ω -3 dB (MHz)	Terminal capacitance C _t V _R =5 V f=1 MHz (pF)	NEP λ = λ_p (W/Hz ^{1/2})
			λ_p	660 nm	780 nm	830 nm		Typ. (nA)	Max. (nA)				
S8385	320 to 1100	960	0.56	0.4	0.48	0.5	4.2	0.1	1.0	1.15	25	12	1.0 × 10 ⁻¹⁴
S8385-04	760 to 1100			-	-	0.44	2.8						0.2
S8729	320 to 1100		0.7	0.45	0.55	0.6	7.5	1.2 × 10 ⁻¹⁴					
S8729-04	760 to 1100		0.68	-	-	0.52	5	1.1 × 10 ⁻¹⁴					
S8729-10	320 to 1100		0.7	0.45	0.55	0.6	7.5	1.1 × 10 ⁻¹⁴					

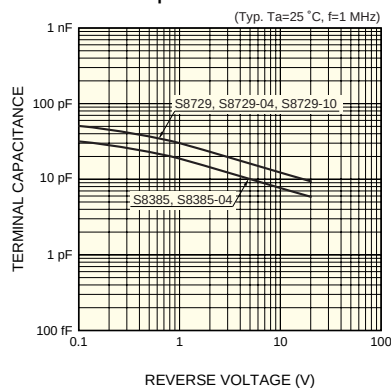
Spectral response



Dark current vs. reverse voltage

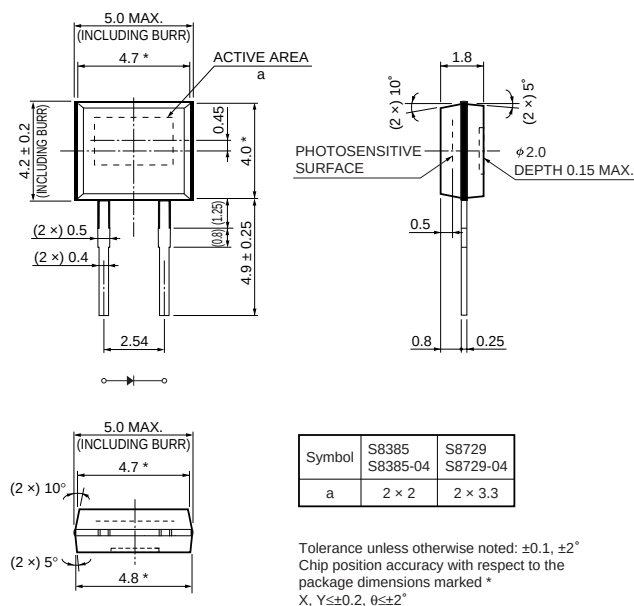


Terminal capacitance vs. reverse voltage

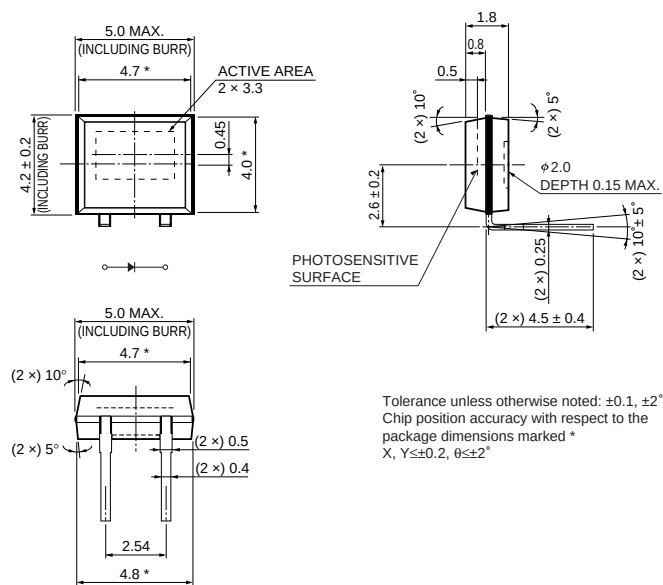


Dimensional outlines (unit: mm)

S8385, S8385-04, S8729, S8729-04



S8729-10



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