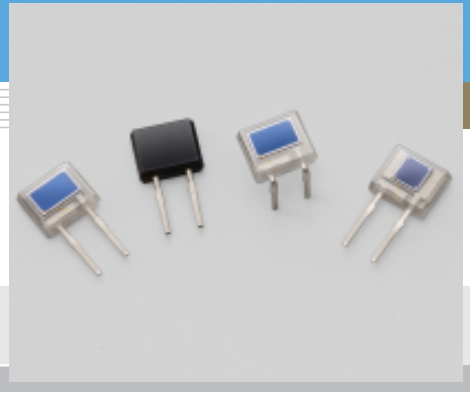


# Si PIN photodiode S8385/S8729 series

## 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:  $4 \times 4.8 \times 1.8$  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:  $2 \times 2$  mm  
S8729 series:  $2 \times 3.3$  mm

### Applications

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

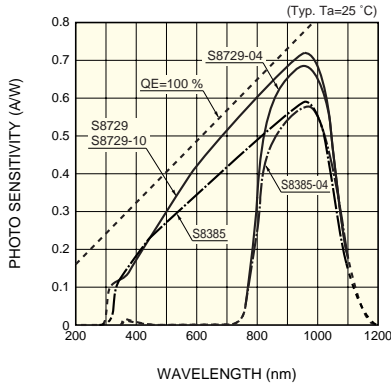
### General ratings / Absolute maximum ratings

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

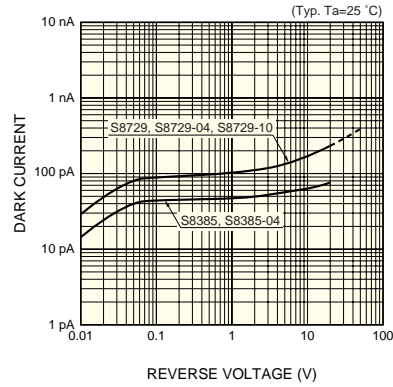
### Electrical and optical characteristics

Type No.	Spectral response range $\lambda$ (nm)	Peak sensitivity wavelength $\lambda_p$ (nm)	Photo sensitivity S (A/W)				Short circuit current I <sub>sc</sub> 100 lx ( $\mu$ A)	Dark current I <sub>D</sub> VR=5 V (nA)		Temperature coefficient of I <sub>D</sub> T <sub>CID</sub> (times/°C)	Cut-off frequency f <sub>c</sub> VR=5 V $\lambda=780$ nm R <sub>L</sub> =50 $\Omega$ -3 dB (MHz)	Terminal capacitance C <sub>t</sub> VR=5 V f=1 MHz (pF)	NEP $\lambda=\lambda_p$ (W/Hz <sup>1/2</sup> )
			$\lambda_p$	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	$1.0 \times 10^{-14}$
S8385-04	760 to 1100			-	-	0.44	2.8						
S8729	320 to 1100		0.7	0.45	0.55	0.6	7.5	0.2	2.0			16	$1.1 \times 10^{-14}$
S8729-04	760 to 1100		0.68	-	-	0.52	5						
S8729-10	320 to 1100		0.7	0.45	0.55	0.6	7.5						

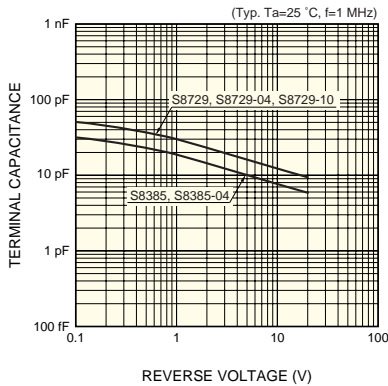
## ■ Spectral response



## ■ Dark current vs. reverse voltage

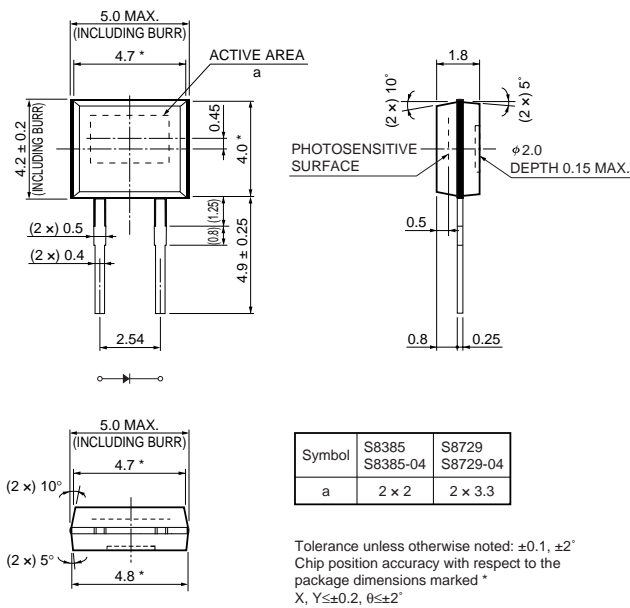


## ■ Terminal capacitance vs. reverse voltage



## ■ Dimensional outlines (unit: mm)

### S8385, S8385-04, S8729, S8729-04



### S8729-10

