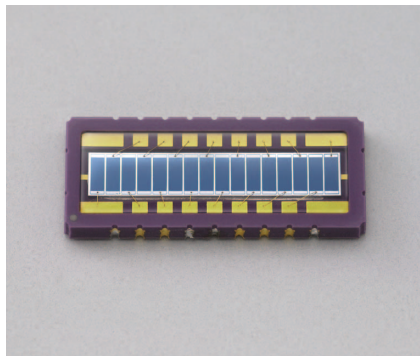


Si PIN photodiode array



S8558

Surface mountable 16-element photodiode array

The S8558 is a 16-element Si PIN photodiode array in a ceramic chip carrier package suitable for surface mount using solder reflow techniques. S8558 can be used in a wide range of applications including spectrophotometer and position detection.

Features

- ➔ Photosensitive area: 0.7 × 2.0 mm (× 16 elements)
- ➔ Ceramic chip carrier package for surface mount
- ➔ Suitable for solder reflow
- ➔ High sensitivity

Applications

- ➔ Spectrophotometers
- ➔ Position detection

Absolute maximum ratings (Ta=25 °C)

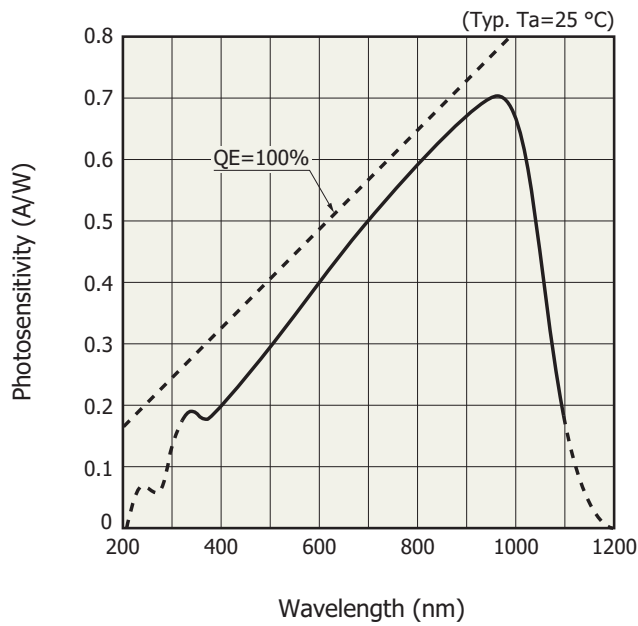
Parameter	Symbol	Value	Unit
Reverse voltage	V _R max	30	V
Operating temperature	T _{opr}	-40 to +100	°C
Storage temperature	T _{stg}	-40 to +125	°C

Note: Exceeding the absolute maximum ratings even momentarily may cause a drop in product quality. Always be sure to use the product within the absolute maximum ratings.

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

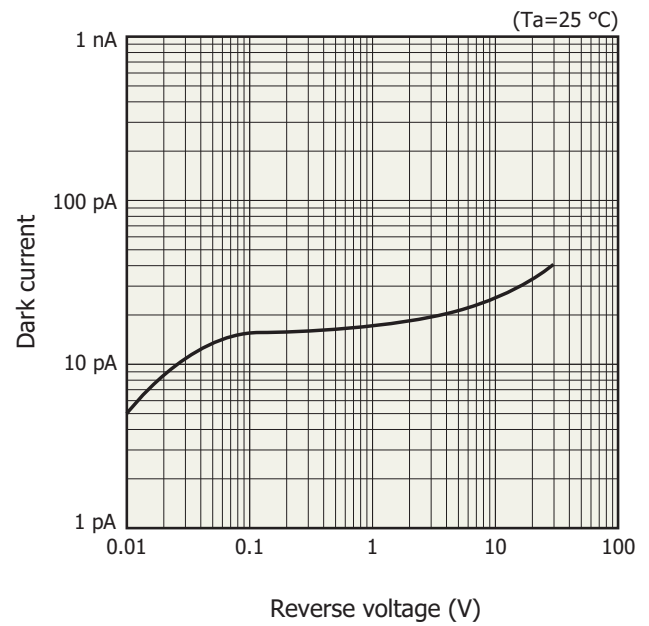
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Spectral response range	λ		-	320 to 1100	-	nm
Peak sensitivity wavelength	λ _p		-	960	-	nm
Photosensitivity	S	λ=660 nm	-	0.45	-	A/W
		λ=780 nm	-	0.57	-	A/W
		λ=830 nm	-	0.62	-	A/W
		λ=λ _p	-	0.72	-	A/W
Short circuit current	I _{sc}	100 lx	-	1.0	-	μA
Dark current	I _D	V _R =10 V	-	0.05	1.0	nA
Temperature coefficient of I _D	T _{CI_D}		-	1.15	-	times/°C
Cutoff frequency	f _c	V _R =10 V, R _L =50 Ω λ=830 nm, -3 dB	-	25	-	MHz
Terminal capacitance	C _t	V _R =10 V, f=1 MHz	-	5	10	pF
Noise equivalent power	NEP	V _R =10 V, λ=λ _p	-	5.6 × 10 ⁻¹⁵	-	W/Hz ^{1/2}

Spectral response



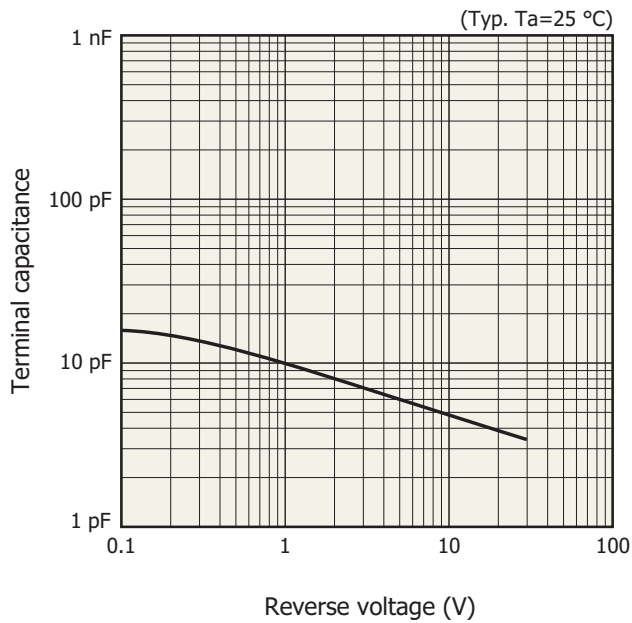
KMPDB0193EB

Dark current vs. reverse voltage (typical example)



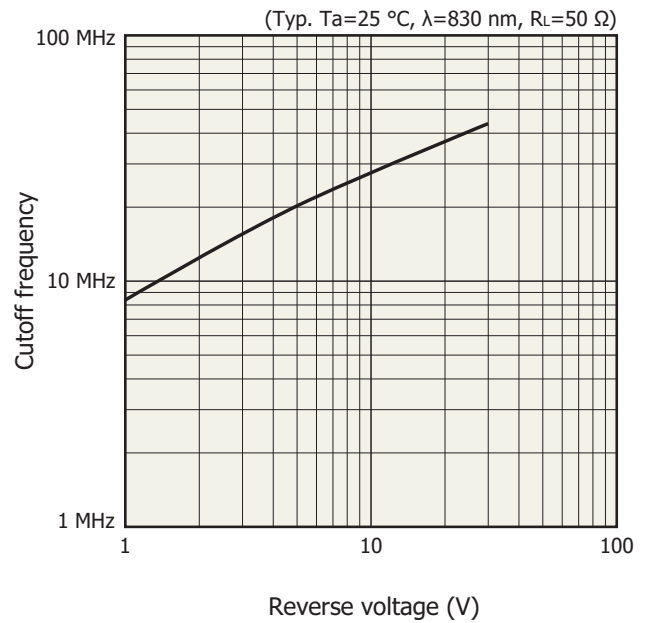
KMPDB0194EC

Terminal capacitance vs. reverse voltage



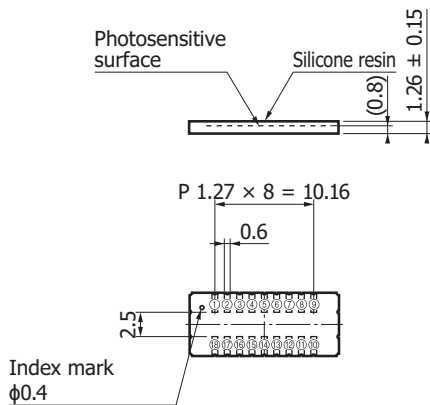
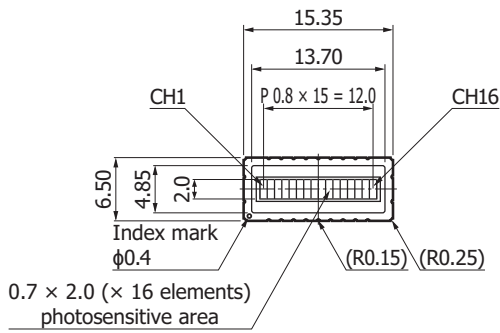
KMPDB0195EB

Cutoff frequency vs. reverse voltage



KMPDB0196EB

Dimensional outline (unit: mm)

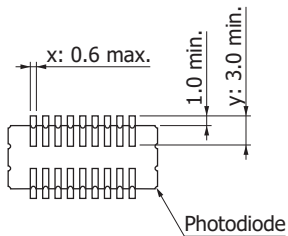


① 1	⑩ 16
② 3	⑪ 14
③ 5	⑫ 12
④ 7	⑬ 10
⑤ 9	⑭ 8
⑥ 11	⑮ 6
⑦ 13	⑯ 4
⑧ 15	⑰ 2
⑨ KC	⑱ NC

Tolerance unless otherwise noted: ± 0.25
Chip position accuracy with respect to the package center
 $X, Y \leq \pm 0.3$

KMPDA0144EC

Recommended land pattern (unit: mm)



1. Solder all terminals.
2. Do not make the land area larger than necessary.
3. It is preferable that the land sizes be about equal.
4. Make land width x about the same as the terminal width.
5. Make land length y at least 1 mm longer than the terminal length, protruding outside the package.

KPINC0028EC

Related information

www.hamamatsu.com/sp/ssd/doc_en.html

■ Precautions

- Disclaimer
- Surface mount type products

■ Technical information

- Si photodiodes / Application circuit examples

Information described in this material is current as of May 2018.

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