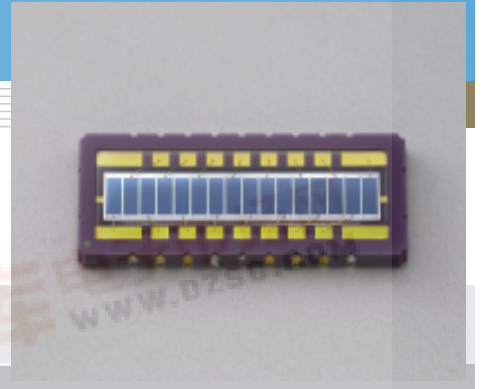


PHOTODIODE

Si PIN photodiode array S8558

Surface mountable 16-element photodiode array



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

- Active 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

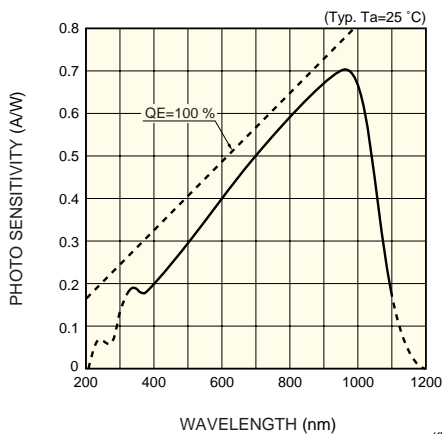
■ Absolute maximum ratings (Ta=25 °C)

Parameter	Symbol	Value	Unit
Reverse voltage	VR Max.	30	V
Operating temperature	Topr	-40 to +100	°C
Storage temperature	Tstg	-40 to +125	°C

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

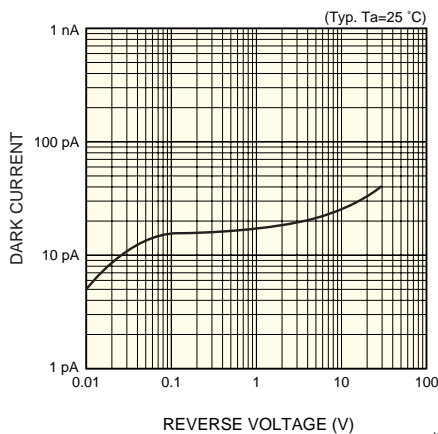
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Spectral response range	λ		-	320 to 1100	-	nm
Peak sensitivity wavelength	λ_p		-	960	-	nm
Photo sensitivity	S	$\lambda=660$ nm	-	0.45	-	A/W
		$\lambda=780$ nm	-	0.57	-	A/W
		$\lambda=830$ nm	-	0.62	-	A/W
		$\lambda=\lambda_p$	-	0.72	-	A/W
Short circuit current	Isc	100 lx	-	1.0	-	μ A
Dark current	ID	VR=10 V	-	0.05	1.0	nA
Temperature coefficient of ID	TcID		-	1.15	-	times/°C
Cut-off frequency	fc	VR=10 V, RL=50 Ω $\lambda=830$ nm, -3 dB	-	25	-	MHz
Terminal capacitance	Ct	VR=10 V, f=1 MHz	-	5	10	pF
Noise equivalent power	NEP	VR=10 V, $\lambda=\lambda_p$	-	5.6×10^{-15}	-	W/Hz ^{1/2}

Spectral response



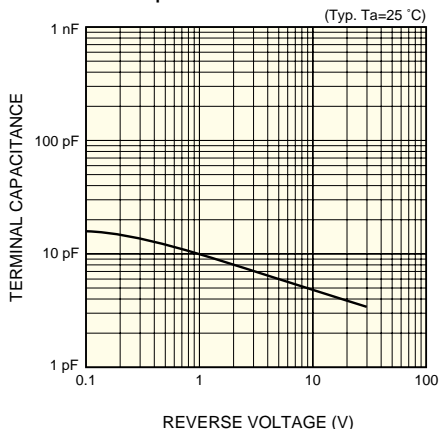
KMPDB0193EA

Dark current vs. reverse voltage



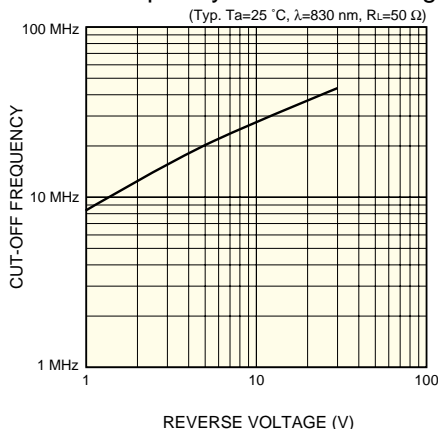
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Terminal capacitance vs. reverse voltage



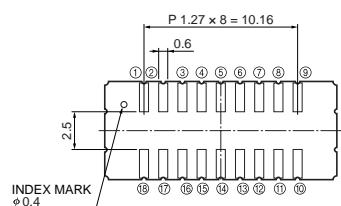
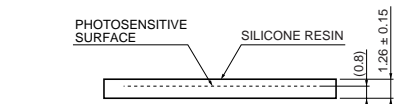
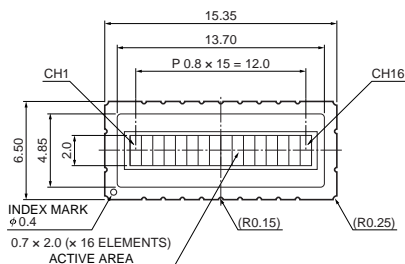
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Cut-off frequency vs. reverse voltage



KMPDB0196EA

Dimensional outline (unit: mm)



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

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

KMPDA0144EA