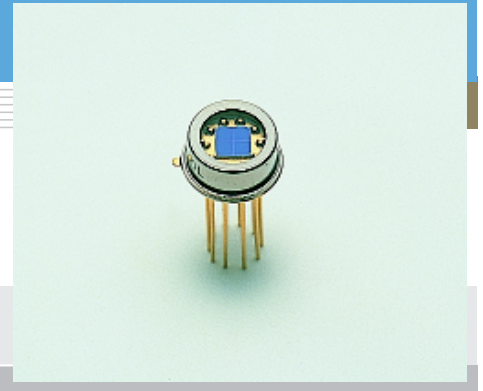


# Si PIN photodiode

## S4349

### Quadrant Si PIN photodiode



S4349 is a quadrant Si PIN photodiode having sensitivity in the UV to near IR spectral range. A quadrant element format allows position sensing such as for laser beam axis alignment.

#### Features

- Quadrant (2 × 2) element format
- Low cross-talk: 2 % Max.
- Wide spectral response range: 190 to 1000 nm
- High-speed response:  $f_c=20$  MHz
- TO-5 metal package

#### Applications

- Laser beam axis alignment
- Position sensing

#### ■ General ratings

Parameter	Symbol	Value	Unit
Window material	-	Quartz glass	-
Active area	A	□3.0/4 element	mm
Element gap	-	100	μm

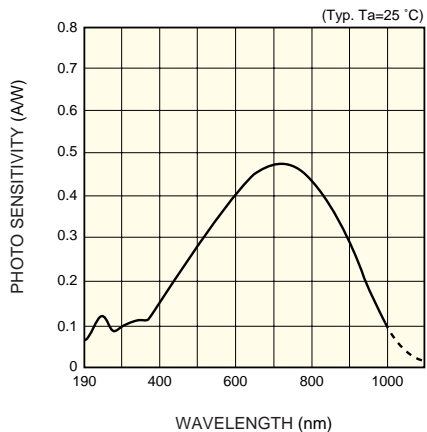
#### ■ Absolute maximum ratings

Parameter	Symbol	Value	Unit
Reverse voltage	$V_R$ Max.	20	V
Operating temperature	$T_{opr}$	-20 to +60	°C
Storage temperature	$T_{stg}$	-55 to +80	°C

#### ■ Electrical and optical characteristics ( $T_a=25$ °C, per 1 element)

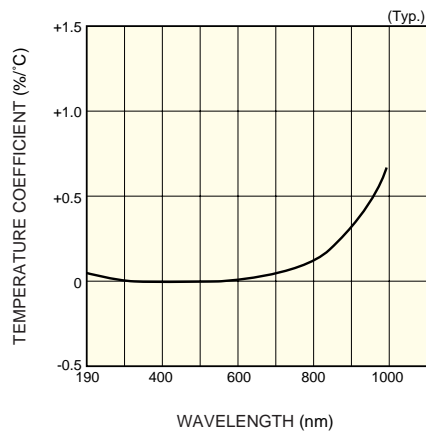
Parameter	Symbol	Condition	Typ.	Max.	Unit
Spectral response range	$\lambda$		190 to 1000	-	nm
Peak sensitivity wavelength	$\lambda_p$		720	-	nm
Photo sensitivity	S	$\lambda=\lambda_p$	0.45	-	A/W
Dark current	$I_D$	$V_R=5$ V	0.01	0.2	nA
Temperature coefficient of $I_D$	$TC_{I_D}$		1.12	-	times/°C
Cut-off frequency	$f_c$	$V_R=5$ V, $R_L=50$ Ω $\lambda=780$ nm, -3 dB	20	-	MHz
Terminal capacitance	$C_t$	$V_R=5$ V, $f=1$ MHz	25	-	pF
Noise equivalent power	NEP	$V_R=5$ V, $\lambda=\lambda_p$	$4.0 \times 10^{-15}$	-	W/Hz <sup>1/2</sup>
Cross-talk	CL	$V_R=5$ V, $\lambda=780$ nm	-	2	%

■ Spectral response



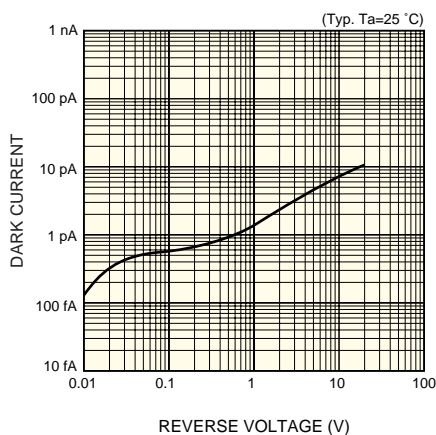
KMPD80126EA

■ Photo sensitivity temperature characteristic



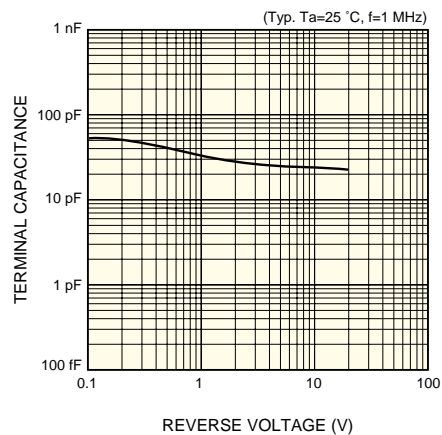
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■ Dark current vs. reverse voltage



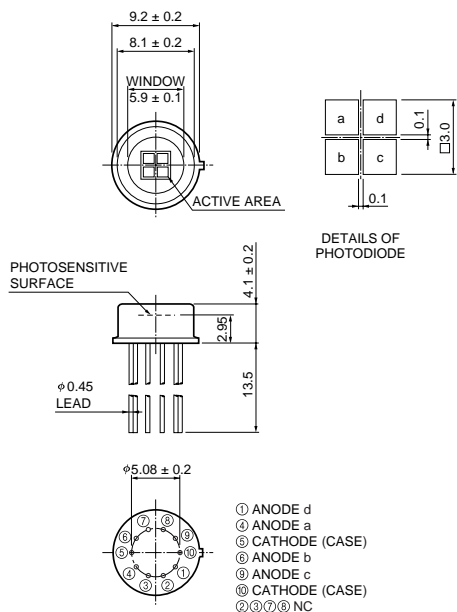
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■ Terminal capacitance vs. reverse voltage



KMPD80129EA

■ Dimensional outline (unit: mm)



KMPDA0114EA

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