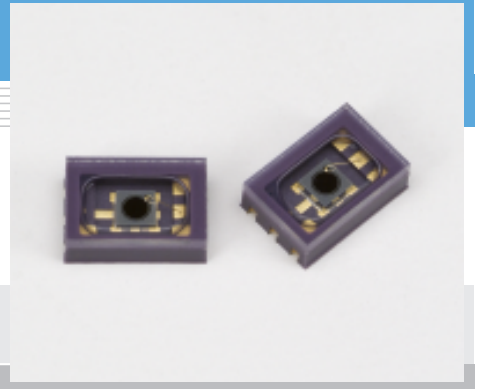


Si PIN photodiode

S9687

Si PIN photodiode for violet-laser detection



S9687 is a Si PIN photodiode developed to detect light emitted from violet-laser diodes. S9687 features high sensitivity and high-speed response in the violet region. S9687 is smaller than the conventional type (S8910-01).

Features

- Active area: $\phi 0.8$ mm
- Miniature chip carrier package: $3 \times 4.5 \times 1.5^{\dagger}$ mm
- High sensitivity: 0.3 A/W Typ. ($\lambda=405$ nm)
- High-speed response: 500 MHz Typ. ($V_R=2.5$ V)
- Surface-mount package suitable for lead-free solder

Applications

- Violet-laser diode monitor in optical disk drive (High-speed APC)
- Violet-laser detection ($\lambda=405$ nm)

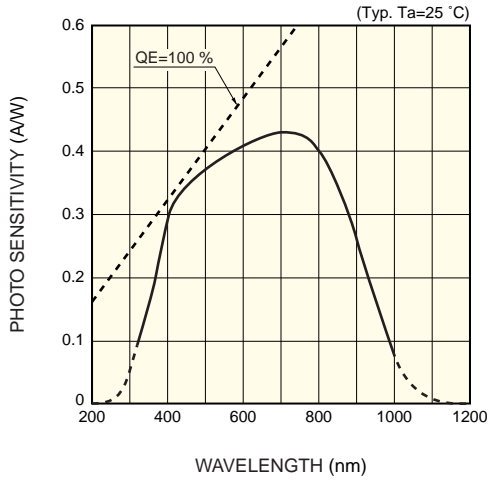
■ Absolute maximum ratings

Parameter	Symbol	Value	Unit
Reverse voltage	V_R Max.	20	V
Operating temperature	T_{opr}	-25 to +85	°C
Storage temperature	T_{stg}	-40 to +100	°C

■ Electrical and optical characteristics ($T_a=25$ °C)

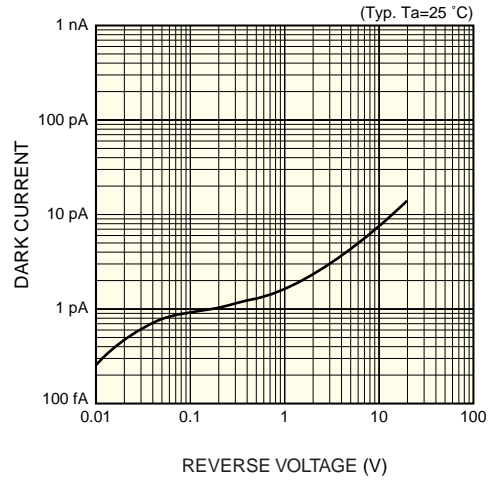
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Spectral response range	λ		-	320 to 1000	-	nm
Peak sensitivity wavelength	λ_p		-	760	-	nm
Photo sensitivity	S	$\lambda=405$ nm	0.26	0.3	-	A/W
Dark current	I_D	$V_R=2.5$ V	-	0.01	0.3	nA
Cut-off frequency	f_c	$V_R=2.5$ V, $R_L=50$ Ω $\lambda=405$ nm, -3 dB	300	500	-	MHz
Terminal capacitance	C_t	$V_R=2.5$ V, $f=1$ MHz	-	6	12	pF

■ Spectral response



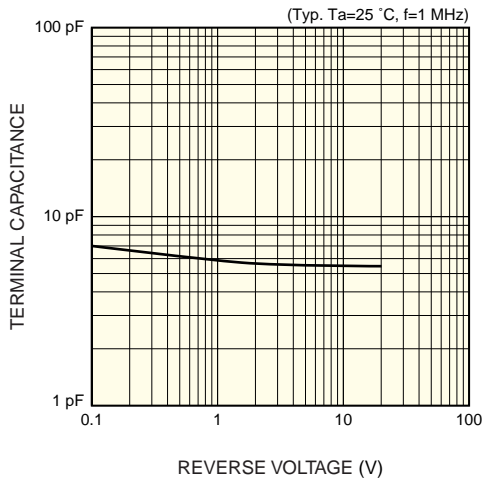
KPINB0285EB

■ Dark current vs. reverse voltage



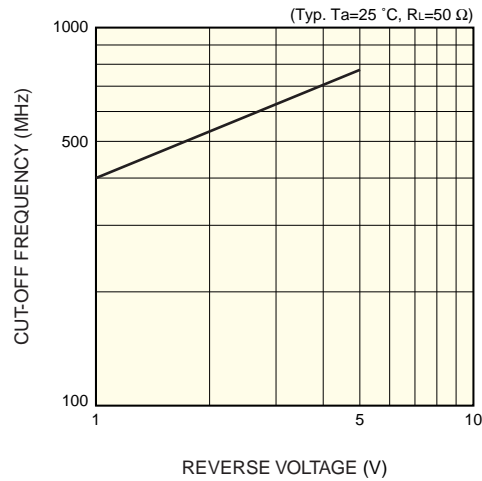
KPINB0286EA

■ Terminal capacitance vs. reverse voltage



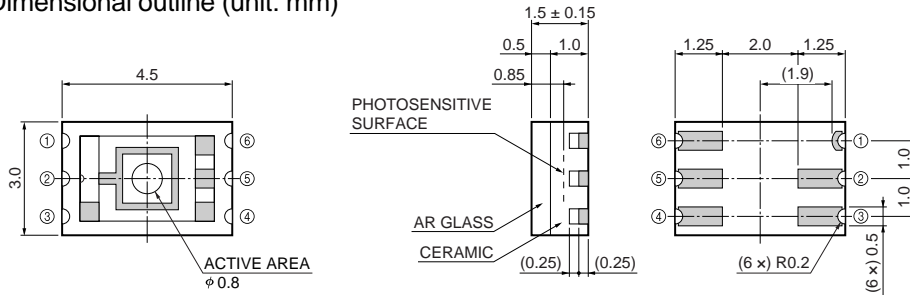
KPINB0287EA

■ Cut-off frequency vs. reverse voltage



KPINB0288EA

■ Dimensional outline (unit: mm)



- ① NC
- ② CATHODE
- ③ NC
- ④ NC
- ⑤ ANODE
- ⑥ NC

Tolerance unless otherwise noted: ±0.1
 Chip position accuracy with respect to the package center
 $X, Y \leq \pm 0.2, \theta \leq \pm 2^\circ$

KPINA0100EA

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