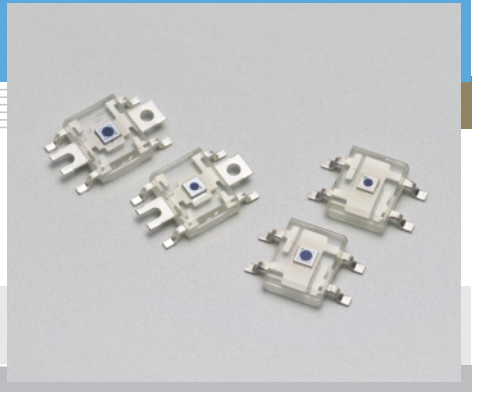


Si PIN photodiode S6431, S6432, S7481, S7482

High-speed detector with surface-mount plastic package



S6431, S6432, S7481 and S7482 are high-speed APC detectors developed for monitoring laser diodes with a peak wavelength shorter than 700 nm. All types are designed for surface mount, and S6431 and S6432 have the terminals for positioning easily.

Features

- High-speed response at low reverse voltage
S6431, S7481 ($\phi 0.8$ mm) : 500 MHz Typ. ($V_R=2.5$ V)
S6432, S7482 ($\phi 0.6$ mm) : 600 MHz Typ. ($V_R=2.5$ V)
- S6431, S6432: Clear plastic package with wire connection terminals (4×4.8 mm)
- High sensitivity: 0.48 A/W Typ. ($\lambda=660$ nm)

Applications

- Laser diode monitor of optical disk unit (high-speed APC)
- Sensor for red laser diode

General ratings / Absolute maximum ratings

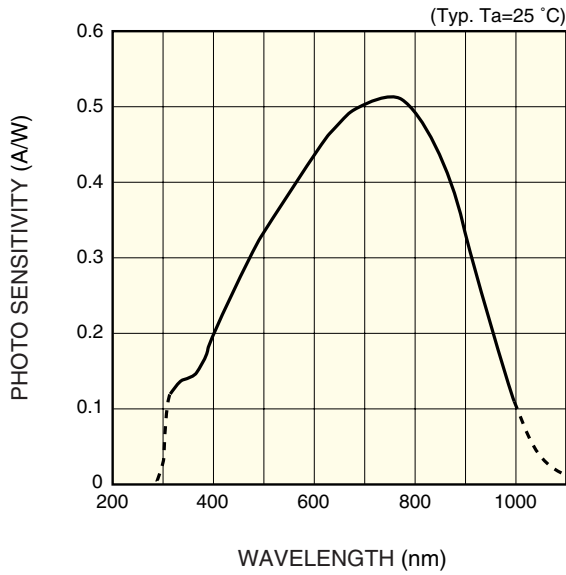
Type No.	Dimensional outline	Package	Active area size (mm)	Effective active area (mm ²)	Absolute maximum ratings			
					Reverse voltage V_R Max. (V)	Power dissipation P (mW)	Operating temperature T_{opr} (°C)	Storage temperature T_{stg} (°C)
S6431	①	Plastic	$\phi 0.8$	0.5	20	50	-25 to +85	-40 to +100
S6432			$\phi 0.6$	0.28				
S7481	②		$\phi 0.8$	0.5				
S7482			$\phi 0.6$	0.28				

Electrical and optical characteristics

Type No.	Spectral response range λ (nm)	Peak sensitivity wavelength λ_p (nm)	Photo sensitivity S (A/W)				Short circuit current I_{sc} 100 lx (μ A)	Dark current I_D $V_R=2.5$ V		Temp. coefficient of I_D T_{CID} (times/°C)	Cut-off frequency f_c $V_R=2.5$ V $R_L=50 \Omega$		Terminal capacitance C_t $V_R=2.5$ V $f=1$ MHz		NEP $V_R=2.5$ V (W/Hz ^{1/2})
			λ_p	660 nm	780 nm	830 nm		Typ. (nA)	Max. (nA)		Min. (MHz)	Typ. (MHz)	Typ. (pF)	Max. (pF)	
S6431	320 to 1000	760	0.5	0.48	0.5	0.45	0.48	0.01	0.3	1.15	300	500	6	12	3.6×10^{-15}
S6432							0.25				400	600	3	6	
S7481							0.48				300	500	6	12	
S7482							0.25				400	600	3	6	

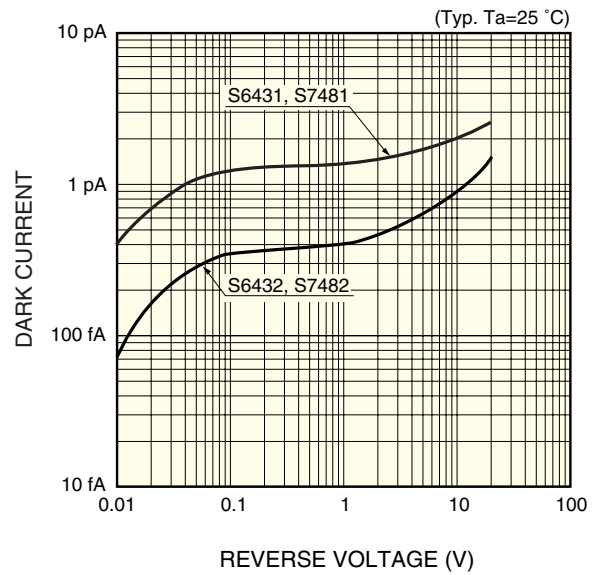
*1: $\lambda=680$ nm

■ Spectral response



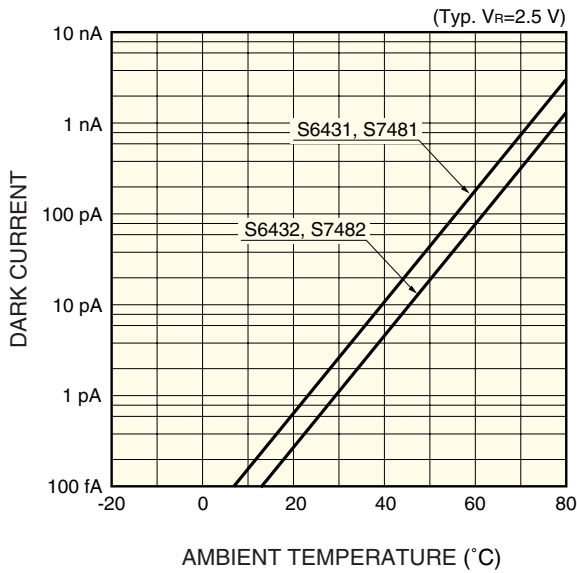
KPINB0171EA

■ Dark current vs. reverse voltage



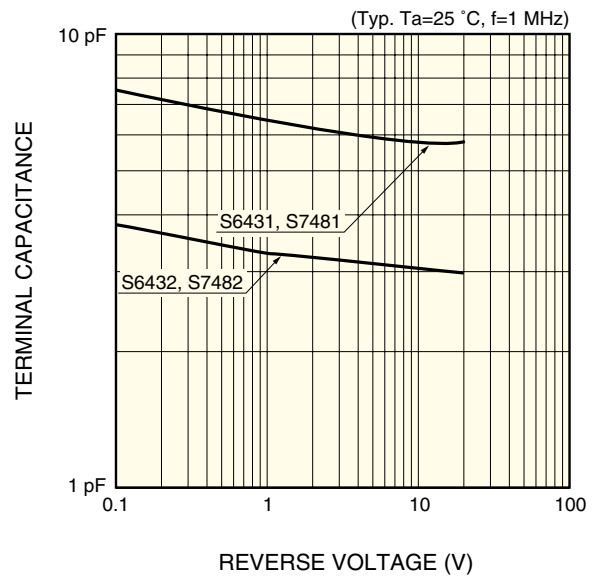
KPINB0172EA

■ Dark current temperature characteristics



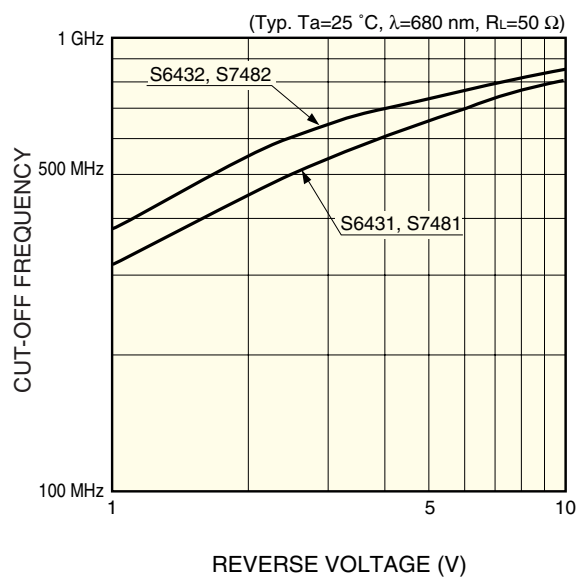
KPINB0173EA

■ Terminal capacitance vs. reverse voltage



KPINB0174EA

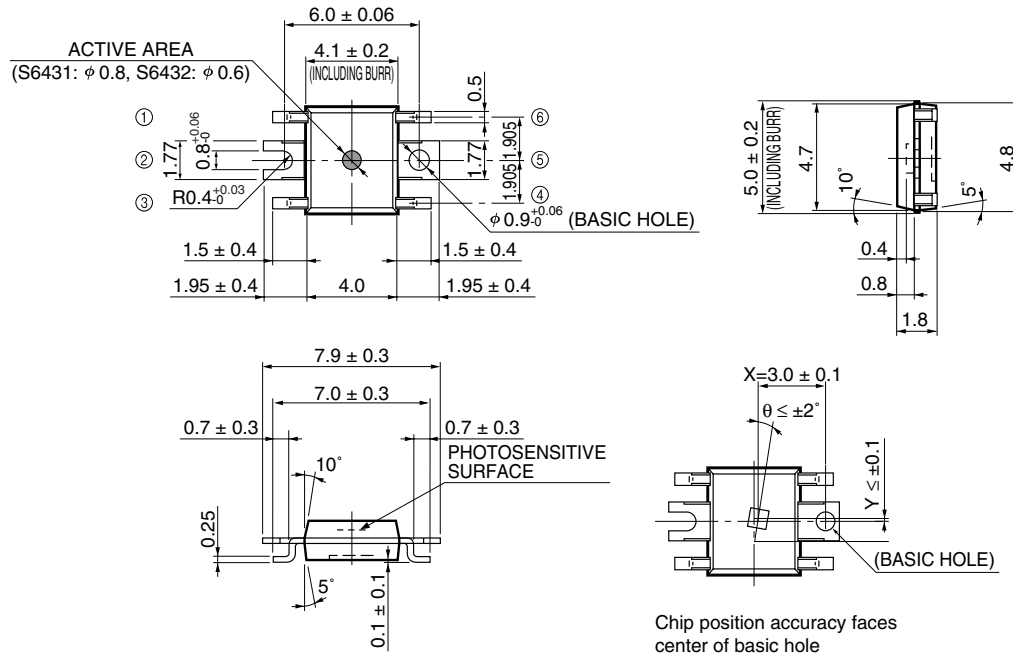
■ Cut-off frequency vs. reverse voltage



Si PIN photodiode S6431, S6432, S7481, S7482

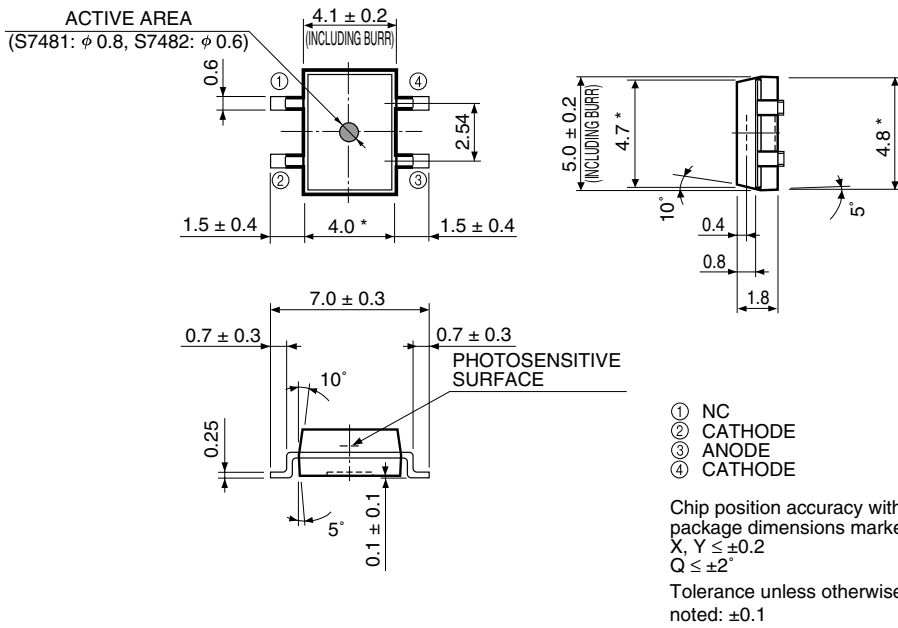
■ Dimensional outline (unit: mm)

① S6431, S6432



KPINA0038EA

② S7481, S7482



KPINA0053EA

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