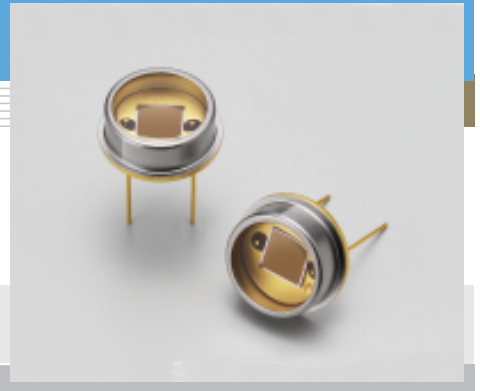


# Si PIN photodiode

## S9195

### Si PIN photodiode for violet-laser detection



S9195 is a Si PIN photodiode designed to have enhanced sensitivity in the emission wavelength range of violet-lasers. A high-speed response is achieved despite the large active area.

#### Features

- High sensitivity: 0.28 A/W Typ. ( $\lambda=405$  nm)
- High-speed response: 50 MHz Typ. ( $V_R=10$  V)
- Active area: 5.0 × 5.0 mm
- TO-8 metal package

#### Applications

- Violet-laser detection and monitor

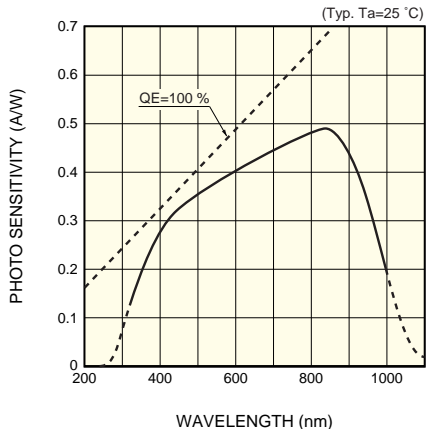
#### ■ Absolute maximum ratings

Parameter	Symbol	Value	Unit
Reverse voltage	$V_R$ Max.	20	V
Operating temperature	$T_{opr}$	-40 to +100	°C
Storage temperature	$T_{stg}$	-55 to +125	°C

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

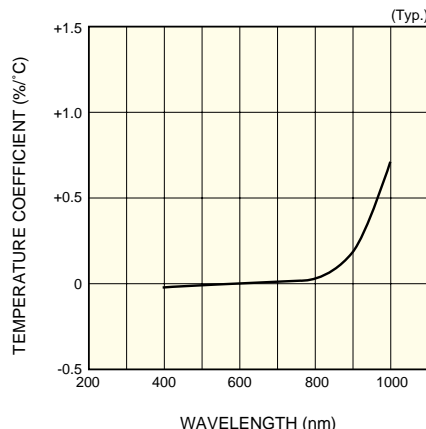
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Spectral response range	$\lambda$		-	320 to 1000	-	nm
Peak sensitivity wavelength	$\lambda_p$		-	840	-	nm
Photo sensitivity	S	$\lambda=405$ nm	0.25	0.28	-	A/W
Dark current	$I_D$	$V_R=10$ V	-	0.5	5	nA
Terminal capacitance	$C_t$	$V_R=10$ V, $f=1$ MHz	-	60	80	pF
Cut-off frequency	$f_c$	$V_R=10$ V, $R_L=50$ $\Omega$ $\lambda=405$ nm, -3 dB	30	50	-	MHz
Noise equivalent power	NEP	$V_R=10$ V, $\lambda=\lambda_p$		$2.5 \times 10^{-14}$	-	W/Hz <sup>1/2</sup>

■ Spectral response



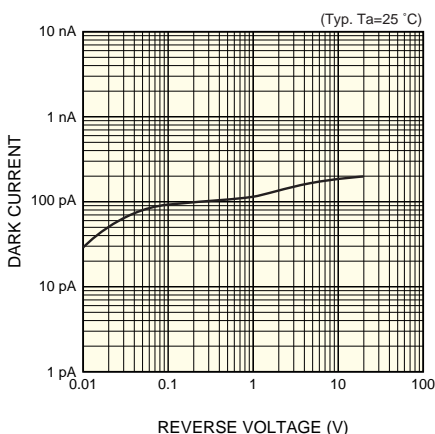
KPINB0289EA

■ Photo sensitivity temperature characteristic



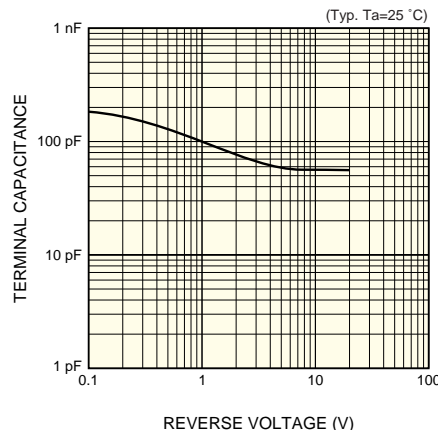
KPINB0290EA

■ Dark current vs. reverse voltage



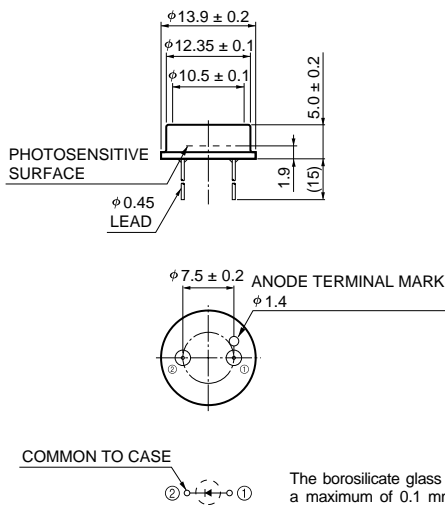
KPINB0291EA

■ Terminal capacitance vs. reverse voltage



KPINB0292EA

■ Dimensional outline (unit: mm)



KPINA0094EA

**HAMAMATSU**

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