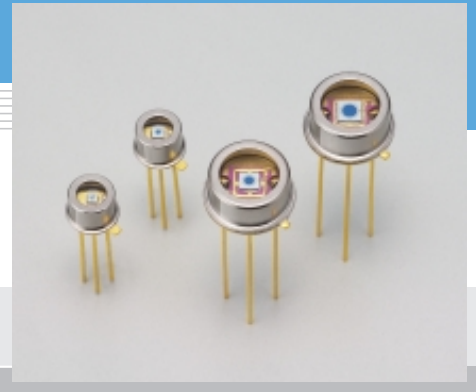


# Si APD

## S9251 series

High sensitivity in near IR range ( $\lambda=900$  nm)



### Features

- High sensitivity in near IR range ( $\lambda=900$  nm)
- Operational stability

### Applications

- Rangefinder
- Spatial light transmission

#### ■ General ratings / Absolute maximum ratings

Type No.	Dimensional outline/ Window material *1	Package	Effective *2		Absolute maximum ratings	
			active area size (mm)	active area (mm <sup>2</sup> )	Operating temperature T <sub>opr</sub> (°C)	Storage temperature T <sub>stg</sub> (°C)
S9251-02	①/K	TO-18	φ0.2	0.03	-20 to +85	-55 to +125
S9251-05			φ0.5	0.19		
S9251-10	②/K	TO-5	φ1.0	0.78		
S9251-15			φ1.5	1.77		

#### ■ Electrical and optical characteristics (Typ. T<sub>a</sub>=25 °C, unless otherwise noted)

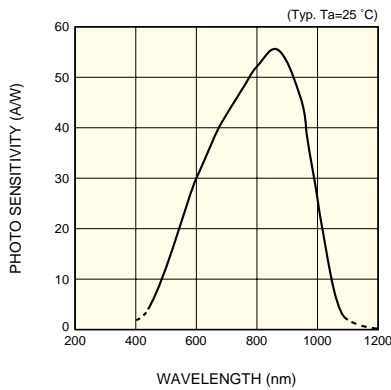
Type No.	Spectral response range $\lambda$ (nm)	Peak *3 sensitivity wavelength $\lambda_p$ (nm)	Photo sensitivity S M=1 $\lambda=900$ nm (A/W)	Quantum efficiency QE M=1 $\lambda=900$ nm (%)	Breakdown voltage V <sub>BR</sub> I <sub>D</sub> =100 $\mu$ A		Temp coefficient of V <sub>BR</sub> (V/°C)	Dark *3 current I <sub>D</sub>		Cut-off *3 frequency f <sub>c</sub> R <sub>L</sub> =50 $\Omega$ (MHz)	Terminal *3 capacitance C <sub>t</sub> (pF)	Excess *3 noise figure x $\lambda=900$ nm	Gain M $\lambda=900$ nm
					Typ. (V)	Max. (V)		Typ. (nA)	Max. (nA)				
S9251-02	440 to 1100	860	0.52	72	250	350	1.85	0.1	1	400	0.4	0.3	100
S9251-05								0.2	2		0.7		
S9251-10								0.4	4		1.9		
S9251-15								0.8	8		3.6		

\*1: K: borosilicate glass

\*2: Area in which a typical gain can be obtained.

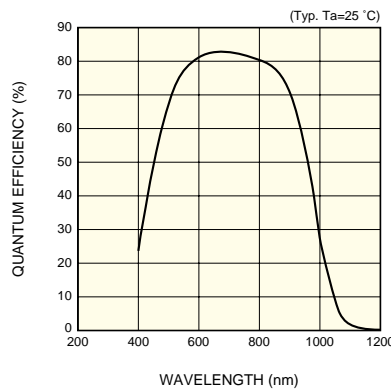
\*3: Values measured at a gain listed in the characteristics table.

## Spectral response (M=100)



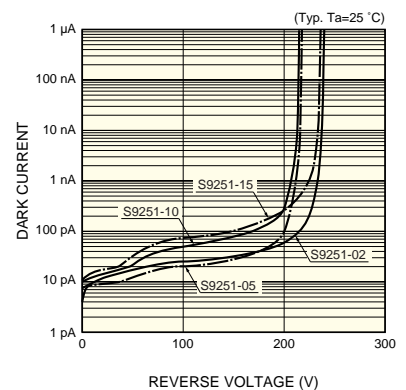
KAPDB0079EA

## Quantum efficiency vs. wavelength



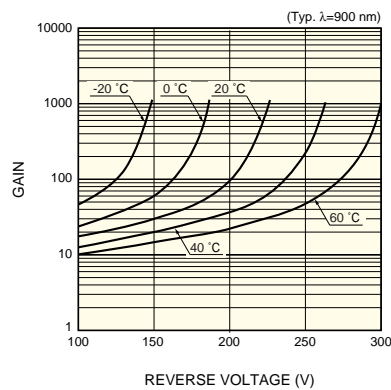
KAPDB0080EA

## Dark current vs. reverse voltage



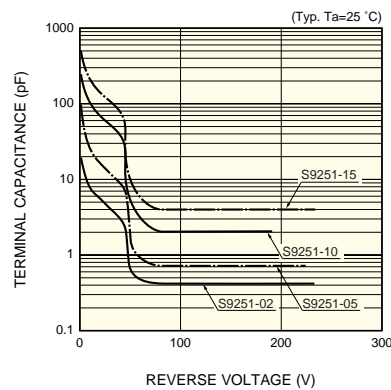
KAPDB0081EA

## Gain vs. reverse voltage



KAPDB0082EA

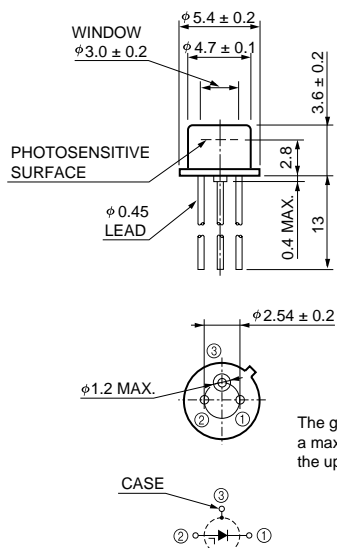
## Terminal capacitance vs. reverse voltage



KAPDB0083EA

## Dimensional outlines (unit: mm)

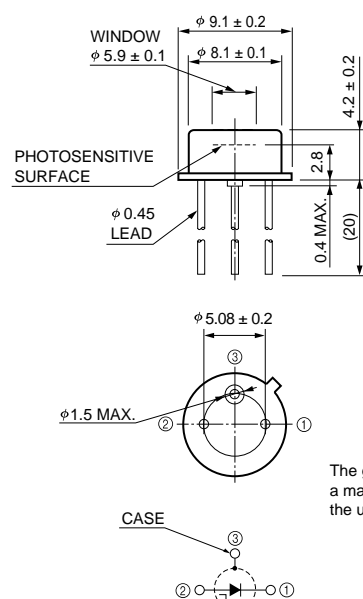
### ① S9251-02/-05



The glass window may extend a maximum of 0.1 mm beyond the upper surface of the cap.

KAPDA0029EA

### ② S9251-10/-15



The glass window may extend a maximum of 0.2 mm beyond the upper surface of the cap.

KAPDA0030EA

# HAMAMATSU

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