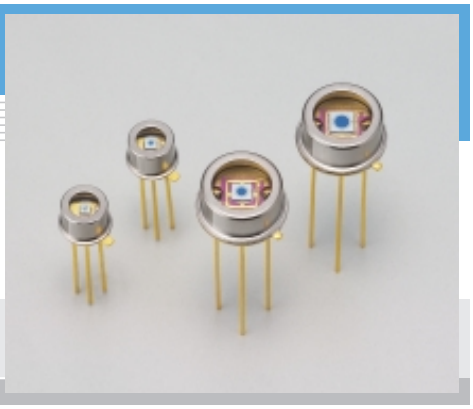
Si APD
S9251 series

High sensitivity in near IR range (λ=900 nm)



Features

- High sensitivity in near IR range (λ=900 nm)
- Operational stability

Applications

- Rangefinder
- Spatial light transmission

■ General ratings / Absolute maximum ratings

Type No.	Dimensional outline/ Window material *1	Package	Effective *2 active area size (mm)	Effective active area (mm^2)	Absolute maximum ratings	
					Operating temperature Topr (°C)	Storage temperature Tstg (°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		

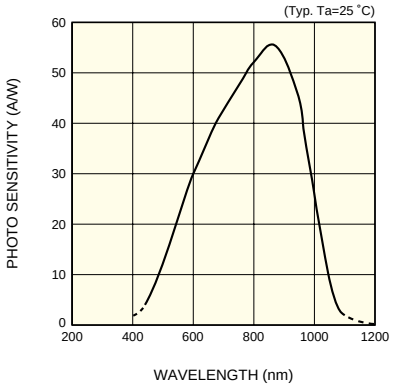
■ Electrical and optical characteristics (Typ. Ta=25 °C, unless otherwise noted)

Type No.	Spectral response range λ (nm)	Peak *3 sensitivity wavelength λp (nm)	Photo sensitivity S M=1 λ=900 nm (A/W)	Quantum efficiency QE M=1 λ=900 nm (%)	Breakdown voltage VBR ID=100 μA		Temp coefficient of VBR (V/°C)	Dark *3 current ID		Cut-off *3 frequency fc RL=50 Ω (MHz)	Terminal *3 capacitance Ct (pF)	Excess *3 noise figure x λ=900 nm	Gain M λ=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	380	1.9		
S9251-15								0.8	8	350	3.6		

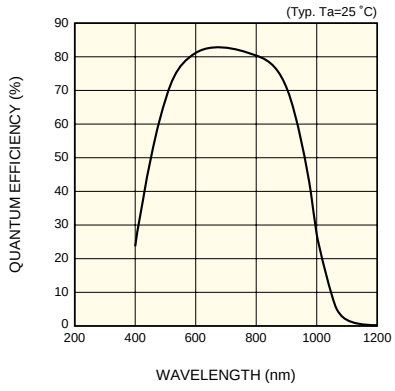
*1: K: borosilicate glass
*2: Area in which a typical gain can be obtained.
*3: Values measured at a gain listed in the characteristics table.

SOLID STATE DIVISION

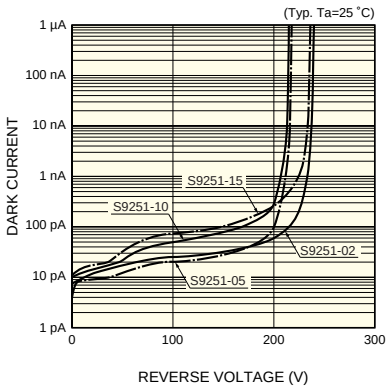
■ Spectral response (M=100)



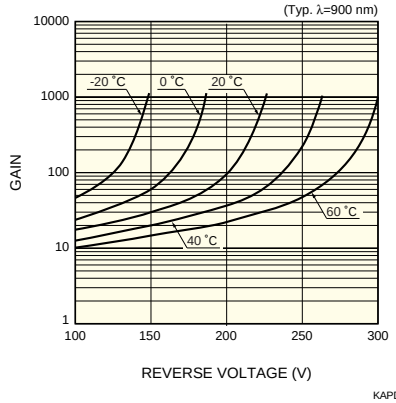
■ Quantum efficiency vs. wavelength



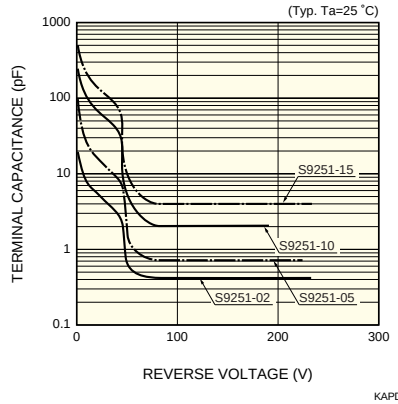
■ Dark current vs. reverse voltage



■ Gain vs. reverse voltage

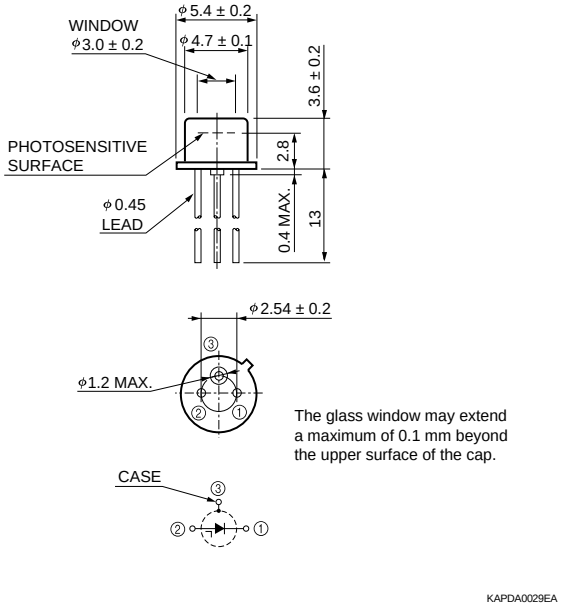


■ Terminal capacitance vs. reverse voltage

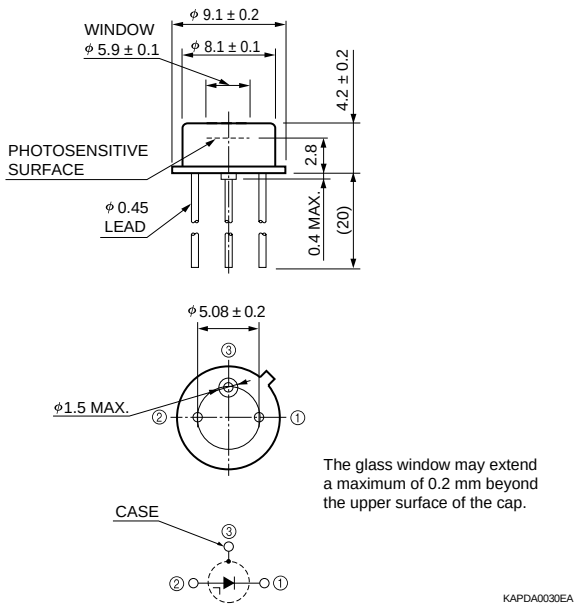


■ Dimensional outlines (unit: mm)

① S9251-02/-05



② S9251-10/-15



HAMAMATSU PHOTONICS K.K., Solid State Division
1126-1 Ichino-cho, Higashi-ku, Hamamatsu City, 435-8558 Japan, Telephone: (81) 53-434-3311, Fax: (81) 53-434-5184, http://www.hamamatsu.com
U.S.A.: Hamamatsu Corporation: 360 Foothill Road, P.O.Box 6910, Bridgewater, N.J. 08807-0910, U.S.A., Telephone: (1) 908-231-0960, Fax: (1) 908-231-1218
Germany: Hamamatsu Photonics Deutschland GmbH: Arzbergerstr. 10, D-82211 Herrsching am Ammersee, Germany, Telephone: (49) 08152-3750, Fax: (49) 08152-2658
France: Hamamatsu Photonics France S.A.R.L.: 19, Rue du Saule Trapu, Parc du Moulin de Massy, 91882 Massy Cedex, France, Telephone: 33-(1) 69 53 71 00, Fax: 33-(1) 69 53 71 10
United Kingdom: Hamamatsu Photonics UK Limited: 2 Howard Court, 10 Tewin Road, Welwyn Garden City, Hertfordshire AL7 1BW, United Kingdom, Telephone: (44) 1707-294888, Fax: (44) 1707-325777
North Europe: Hamamatsu Photonics Norden AB: Smidesvägen 12, SE-171 41 Solna, Sweden, Telephone: (46) 8-509-031-00, Fax: (46) 8-509-031-01
Italy: Hamamatsu Photonics Italia S.R.L.: Strada della Moia, 1/E, 20020 Arese, (Milano), Italy, Telephone: (39) 02-935-81-733, Fax: (39) 02-935-81-741

Cat. No. KAPD1013E02
Dec. 2004 DN