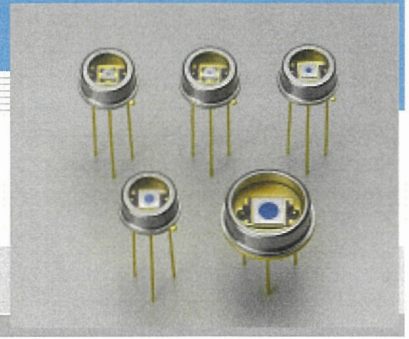


# Si APD S8890 series

## Long wavelength type APD



### Features

- High sensitivity
- High gain
- Low terminal capacitance

### Applications

- YAG laser detection
- Long wavelength light detection

### General ratings / Absolute maximum ratings

Type No.	Dimensional outline/Window material *1	Package	Effective active area size *2 (mm)	Effective active area (mm <sup>2</sup> )	Absolute maximum ratings	
					Operating temperature T <sub>opr</sub> (°C)	Storage temperature T <sub>stg</sub> (°C)
S8890-02	①/K	TO-5	φ0.2	0.03	-20 to +85	-55 to +125
S8890-05			φ0.5	0.19		
S8890-10			φ1.0	0.78		
S8890-15			φ1.5	1.77		
S8890-30	②/K	TO-8	φ3.0	7.0		

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

Type No.	Spectral response range λ (nm)	Peak *3 sensitivity wavelength λ <sub>p</sub> (nm)	Breakdown voltage V <sub>BR</sub> I <sub>D</sub> =100 μA		Temp. coefficient of V <sub>BR</sub> (V/°C)	Dark *3 current I <sub>D</sub>		Terminal *3 capacitance C <sub>t</sub> (pF)	Cut-off *3 frequency f <sub>c</sub> R <sub>L</sub> =50Ω (MHz)	Excess *3 noise figure x λ=800 nm	Gain M λ=800 nm
			Typ. (V)	Max. (V)		Typ. (nA)	Max. (nA)				
S8890-02	400 to 1100	940	500	800	2.5	0.2	2	0.2	280	0.3	100
S8890-05						1.5	15	0.5	240		
S8890-10						5.0	50	1.5	230		
S8890-15						10.0	100	2.5	220		
S8890-30						15.0	150	8.0	220		

\*1: K: borosilicate glass

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

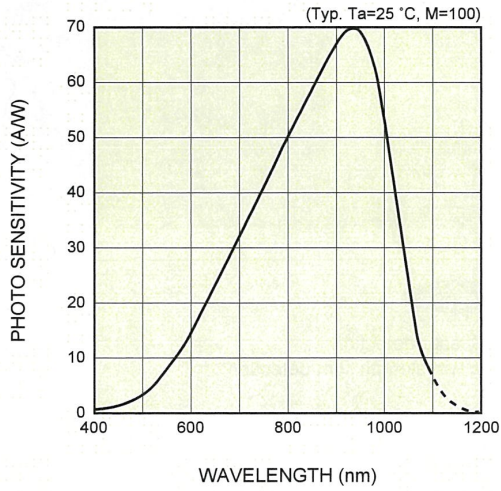
\*3: Values measured at a gain listed in the characteristics table.

**SOLID STATE DIVISION**

**HAMAMATSU**

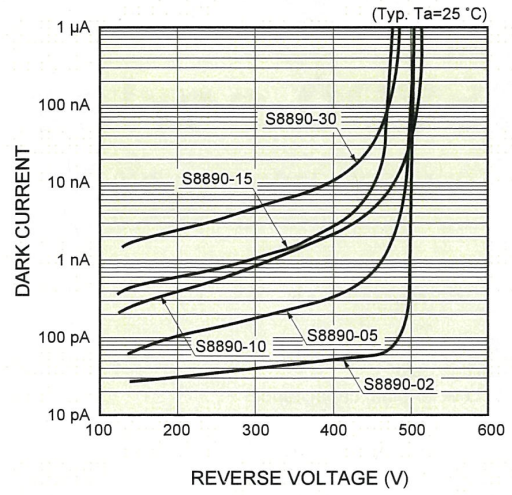
1

■ Spectral response



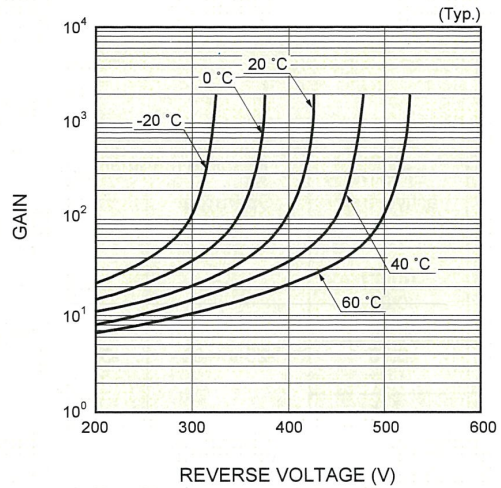
KAPD80064EB

■ Dark current vs. reverse voltage



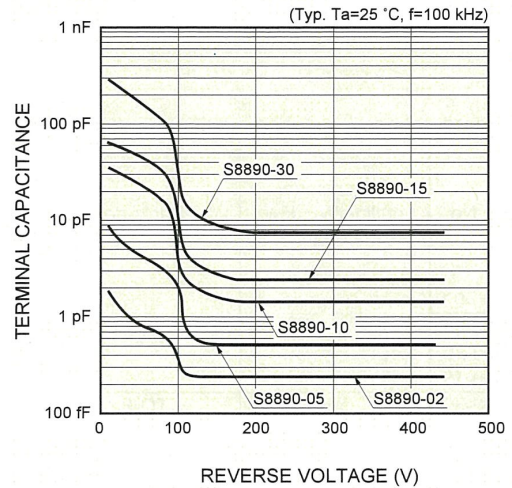
KAPD80065EA

■ Gain vs. reverse voltage



KAPD80066EA

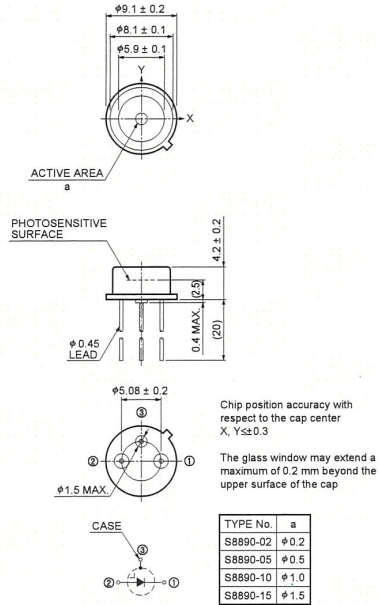
■ Terminal capacitance vs. reverse voltage



KAPD80067EA

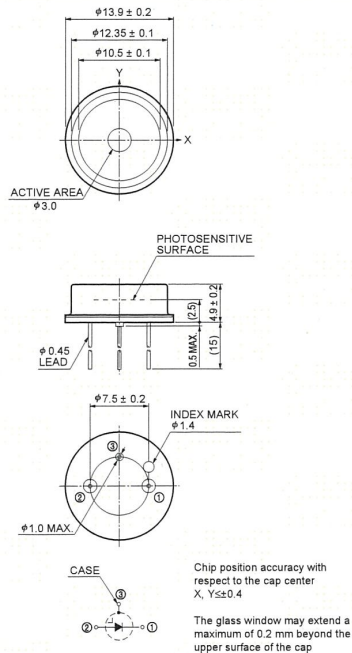
Dimensional outline (unit: mm)

① S8890-02/-05/-10/-15



KAPDA0024EA

② S8890-30



KAPDA0025EA

**HAMAMATSU**

Information furnished by HAMAMATSU is believed to be reliable. However, no responsibility is assumed for possible inaccuracies or omissions. Specifications are subject to change without notice. No patent rights are granted to any of the circuits described herein. Type numbers of products listed in the specification sheets or supplied as samples may have a suffix "(X)" which means tentative specifications or a suffix "(Z)" which means developmental specifications. ©2010 Hamamatsu Photonics K.K.

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, 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) 8152-375-0, Fax: (49) 8152-265-8

France: Hamamatsu Photonics France S.A.R.L.: 19, Rue du Saule Trappu, 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 int. 6, 20020 Arese, (Milano), Italy, Telephone: (39) 02-935-81-733, Fax: (39) 02-935-81-741

Cat. No. KAPD1010E03  
Jun. 2010 DN 3