

# Si photodiode S1337 series

For UV to IR, precision photometry

## Features

- High UV sensitivity: QE 75 % ( $\lambda=200$  nm)
- Low capacitance

## Applications

- Analytical equipment
- Optical measurement equipment

### ■ General ratings / Absolute maximum ratings

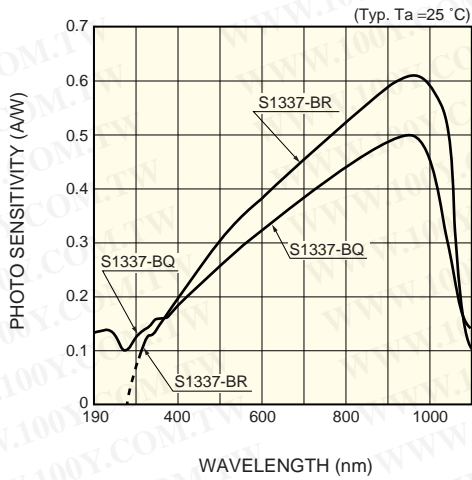
Type No.	Dimensional outline/ Window material *	Package (mm)	Active area size (mm)	Effective active area (mm <sup>2</sup> )	Absolute maximum ratings		
					Reverse voltage V <sub>R</sub> Max. (V)	Operating temperature T <sub>op</sub> (°C)	Storage temperature T <sub>stg</sub> (°C)
S1337-16BQ	①/Q	2.7 × 15	1.1 × 5.9	5.9	5	-20 to +60	-20 to +80
S1337-16BR	②/R						
S1337-33BQ	③/Q	6 × 7.6	2.4 × 2.4	5.7			
S1337-33BR	④/R						
S1337-66BQ	⑤/Q	8.9 × 10.1	5.8 × 5.8	33			
S1337-66BR	⑥/R						
S1337-1010BQ	⑦/Q	15 × 16.5	10 × 10	100			
S1337-1010BR	⑧/R						

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

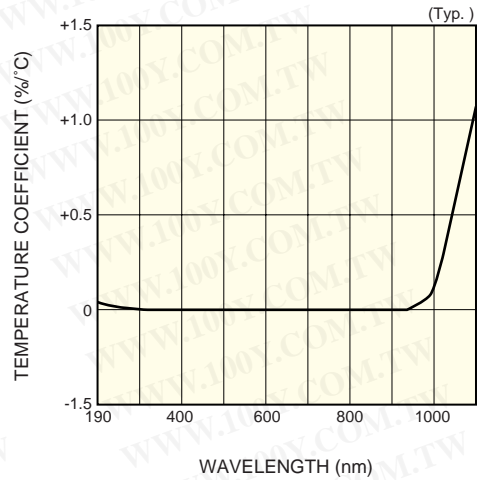
Type No.	Spectral response range $\lambda$ (nm)	Peak sensitivity wavelength $\lambda_p$ (nm)	Photo sensitivity S (A/W)					Short circuit current I <sub>sc</sub> 100 I <sub>x</sub>		Dark current I <sub>D</sub> V <sub>R</sub> =10 mV Max. (pA)	Temp. coefficient of I <sub>D</sub> T <sub>CID</sub> (times/°C)	Rise time t <sub>r</sub> V <sub>R</sub> =0 V R <sub>L</sub> =1 k $\Omega$ ( $\mu$ s)	Terminal capacitance C <sub>t</sub> V <sub>R</sub> =0 V f=10 kHz (pF)	Shunt resistance R <sub>sh</sub> V <sub>R</sub> =10 mV		NEP (W/Hz <sup>1/2</sup> )			
			$\lambda_p$	200 nm		He-Ne laser 633 nm	GaAs LED 930 nm	Min.	Typ.					Min.	Typ.				
				Min.	Typ.												( $\Omega$ )	( $\Omega$ )	
S1337-16BQ	190 to 1100	960	0.5	0.10	0.12	0.33	0.5	4.0	5.3	50	1.15	0.2	65	0.2	0.6	1.0 × 10 <sup>-14</sup>			
S1337-16BR	320 to 1100		0.62	-	-	0.4	0.6	4.4	6.2					0.2	0.6	8.4 × 10 <sup>-15</sup>			
S1337-33BQ	190 to 1100		0.5	0.10	0.12	0.33	0.5	4.0	5.0					30	0.2	65	0.3	1	8.1 × 10 <sup>-15</sup>
S1337-33BR	320 to 1100		0.62	-	-	0.4	0.6	4.4	6.2								0.3	1	6.5 × 10 <sup>-15</sup>
S1337-66BQ	190 to 1100		0.5	0.10	0.12	0.33	0.5	20	27					100	1	380	0.1	0.4	1.3 × 10 <sup>-14</sup>
S1337-66BR	320 to 1100		0.62	-	-	0.4	0.6	22	33								0.1	0.4	1.0 × 10 <sup>-14</sup>
S1337-1010BQ	190 to 1100		0.5	0.10	0.12	0.33	0.5	65	78					200	3	1100	0.05	0.2	1.8 × 10 <sup>-14</sup>
S1337-1010BR	320 to 1100		0.62	-	-	0.4	0.6	70	95								0.05	0.2	1.5 × 10 <sup>-14</sup>

\* Window material Q: quartz glass, R: resin coating

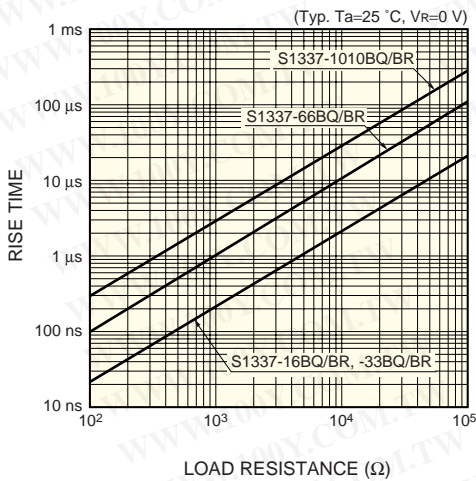
■ Spectral response



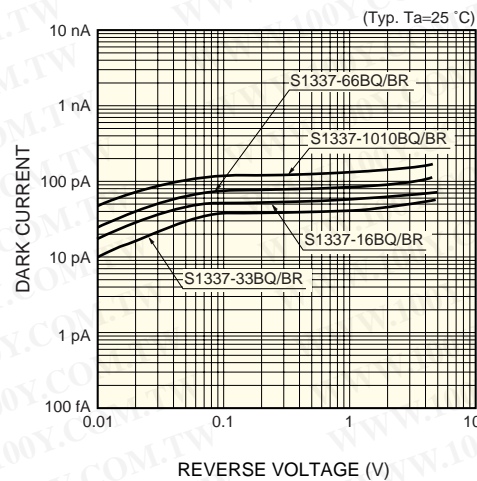
■ Photo sensitivity temperature characteristic



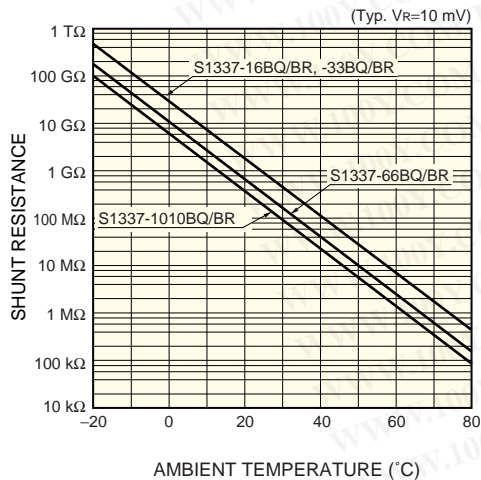
■ Rise time vs. load resistance



■ Dark current vs. reverse voltage



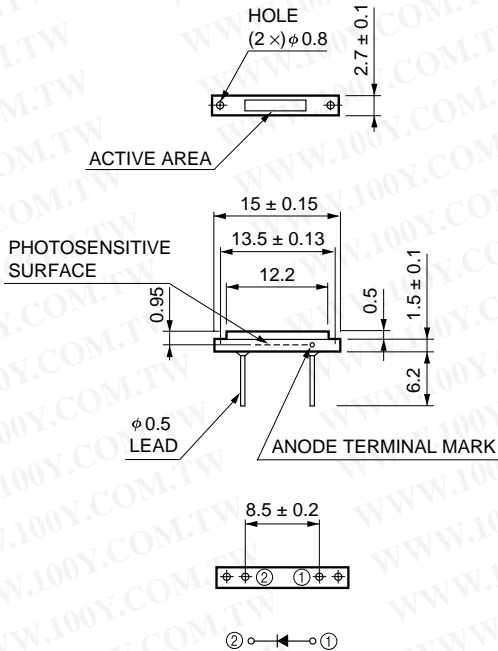
■ Shunt resistance vs. ambient temperature



勝特力材料 886-3-5753170  
 勝特力电子(上海) 86-21-54151736  
 勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)

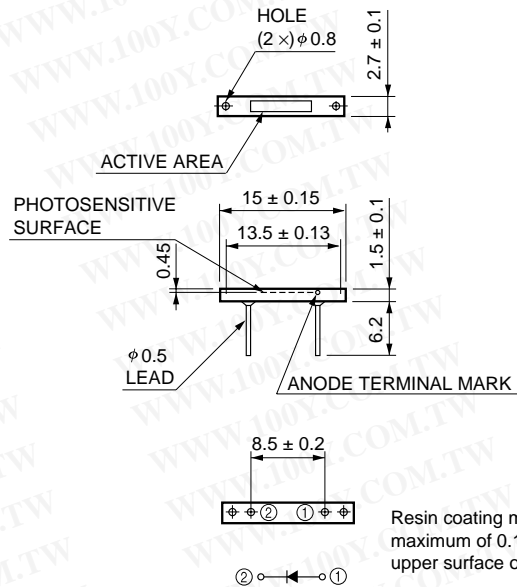
■ Dimensional outlines (unit: mm)

① S1337-16BQ



KSPDA0105EA

② S1337-16BR

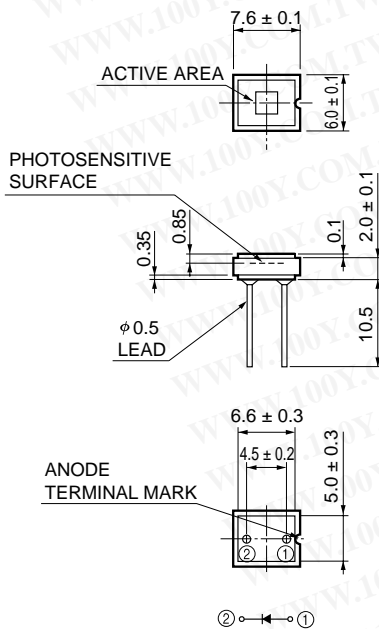


KSPDA0106EA

Resin coating may extend a maximum of 0.1 mm above the upper surface of the package.

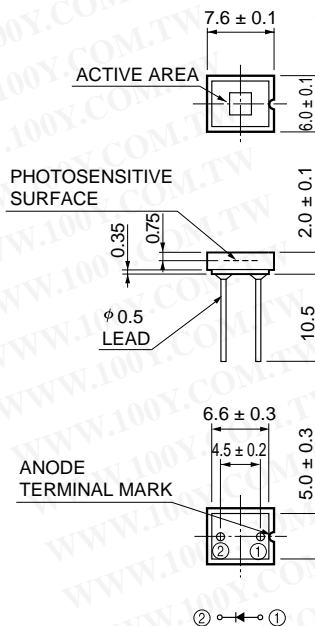
勝特力材料 886-3-5753170  
 勝特力电子(上海) 86-21-54151736  
 勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)

③ S1337-33BQ



KSPDA0107EA

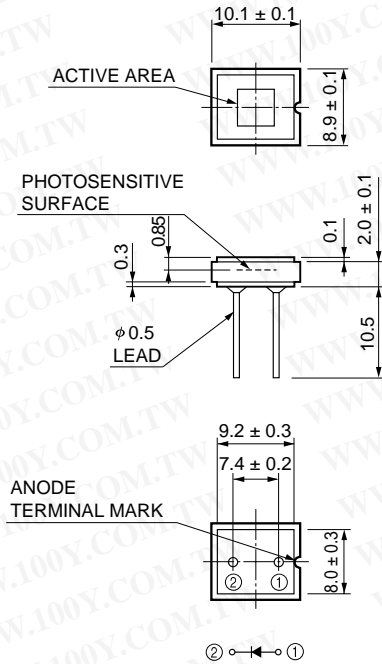
④ S1337-33BR



KSPDA0108EA

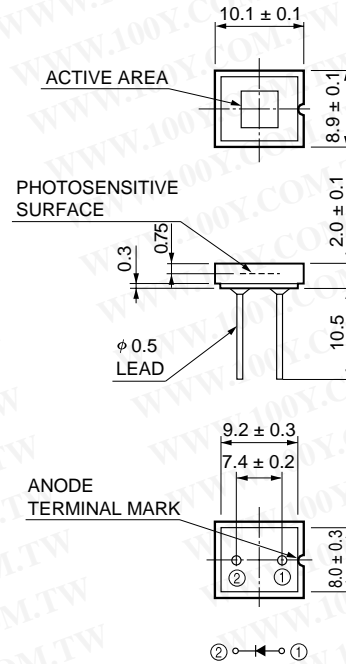
Resin coating may extend a maximum of 0.1 mm above the upper surface of the package.

⑤ S1337-66BQ



KSPDA0109EA

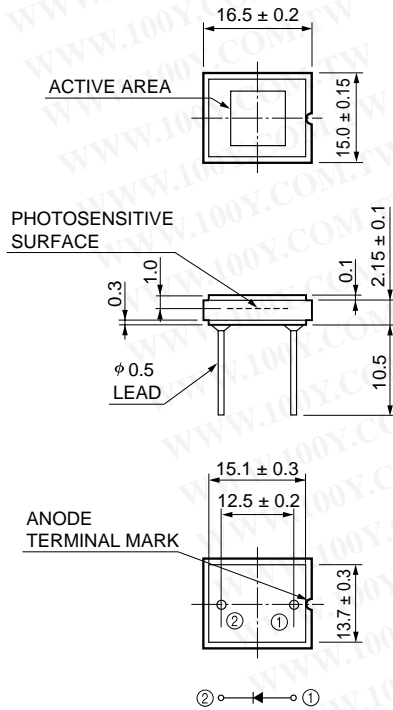
⑥ S1337-66BR



KSPDA0110EA

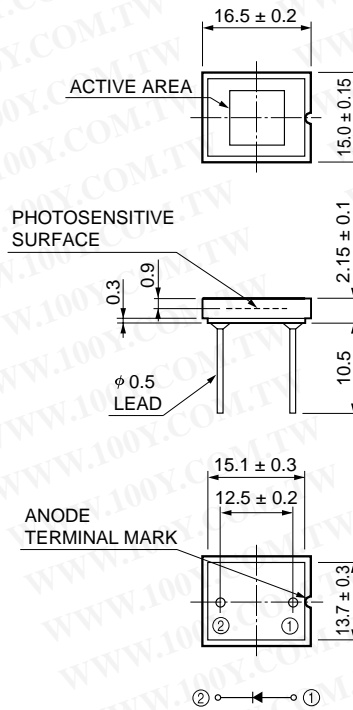
Resin coating may extend a maximum of 0.1 mm above the upper surface of the package.

⑦ S1337-1010BQ



KSPDA0111EA

⑧ S1337-1010BR



KSPDA0112EA

Resin coating may extend a maximum of 0.1 mm above the upper surface of the package.

**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. ©2004 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, 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 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: Smidevägen 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