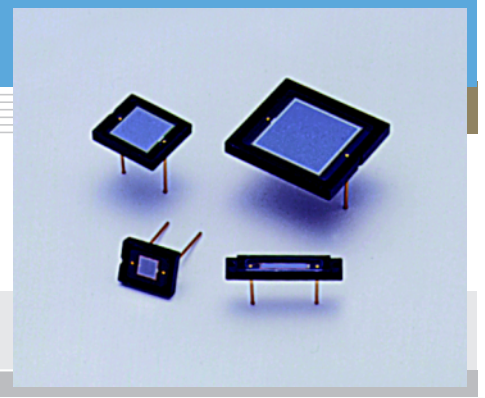


Si photodiode S1227 series

For UV to visible, precision photometry; suppressed IR sensitivity



Features

- High UV sensitivity: QE 75 % ($\lambda=200$ nm)
- Suppressed IR sensitivity
- Low dark current

Applications

- Analytical equipment
- Optical measurement equipment, etc.

General ratings / Absolute maximum ratings

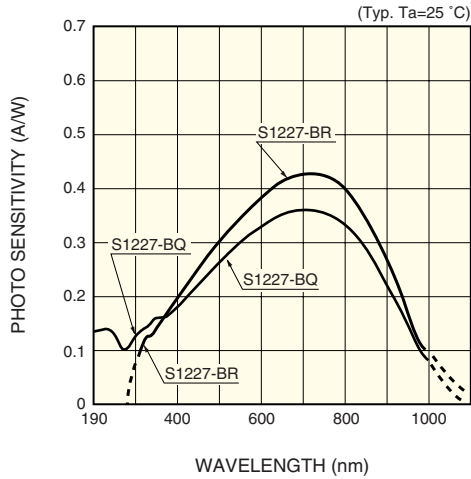
Type No.	Dimensional outline/ Window material *	Package (mm)	Active area size (mm)	Effective active area (mm ²)	Absolute maximum ratings		
					Reverse voltage V _R Max. (V)	Operating temperature T _{opr} (°C)	Storage temperature T _{stg} (°C)
S1227-16BQ	①/Q	2.7 × 15	1.1 × 5.9	5.9	5	-20 to +60	-20 to +80
S1227-16BR	②/R						
S1227-33BQ	③/Q	6 × 7.6	2.4 × 2.4	5.7			
S1227-33BR	④/R						
S1227-66BQ	⑤/Q	8.9 × 10.1	5.8 × 5.8	33			
S1227-66BR	⑥/R						
S1227-1010BQ	⑦/Q	15 × 16.5	10 × 10	100			
S1227-1010BR	⑧/R						

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

Type No.	Spectral response range λ (nm)	Peak sensitivity wavelength λ_p (nm)	Photo sensitivity S (A/W)				Short circuit current I _{sc} 100 lx		Dark current I _D V _R =10 mV Max. (pA)	Temp. coefficient T _{CID} (times/°C)	Rise time t _r V _R =0 V R _L =1 k Ω (μ s)	Terminal capacitance C _t V _R =0 V f=10 kHz (pF)	Shunt resistance R _{sh} V _R =10 mV (G Ω)		NEP (W/Hz ^{1/2})
			λ_p	200 nm		He-Ne Laser 633 nm	Min. (μ A)	Typ. (μ A)					Min.	Typ.	
				Min.	Typ.										
S1227-16BQ	190 to 1000	720	0.36	0.10	0.12	0.34	2	3.2	5	1.12	0.5	170	2	20	2.5 × 10 ⁻¹⁵
S1227-16BR	320 to 1000		0.43	-	-	0.39	2.2	3.7					2	20	2.1 × 10 ⁻¹⁵
S1227-33BQ	190 to 1000		0.36	0.10	0.12	0.34	2	3.0	5	1.12	0.5	160	2	20	2.5 × 10 ⁻¹⁵
S1227-33BR	320 to 1000		0.43	-	-	0.39	2.2	3.7					2	20	2.1 × 10 ⁻¹⁵
S1227-66BQ	190 to 1000		0.36	0.10	0.12	0.34	11	16	20	1.12	2	950	0.5	5	5.0 × 10 ⁻¹⁴
S1227-66BR	320 to 1000		0.43	-	-	0.39	13	19					0.5	5	4.2 × 10 ⁻¹⁵
S1227-1010BQ	190 to 1000		0.36	0.10	0.12	0.34	32	44	50	1.12	7	3000	0.2	2	8.0 × 10 ⁻¹⁴
S1227-1010BR	320 to 1000		0.43	-	-	0.39	36	53					0.2	2	6.7 × 10 ⁻¹⁴

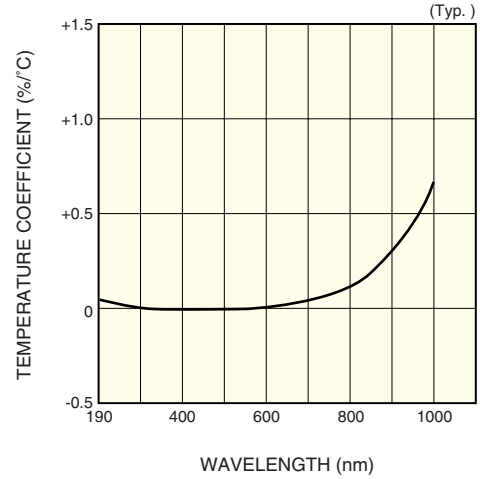
* Window material Q: quartz glass, R: resin coating

■ Spectral response



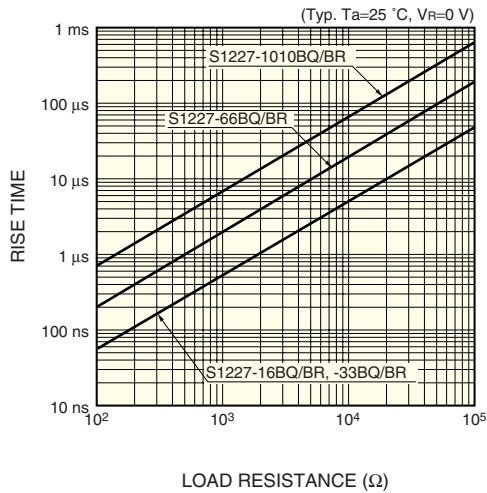
KSPDB0094EA

■ Photo sensitivity temperature characteristic



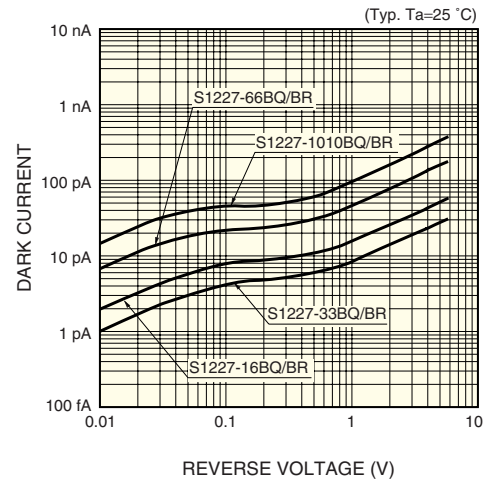
KSPDB0090EB

■ Rise time vs. load resistance



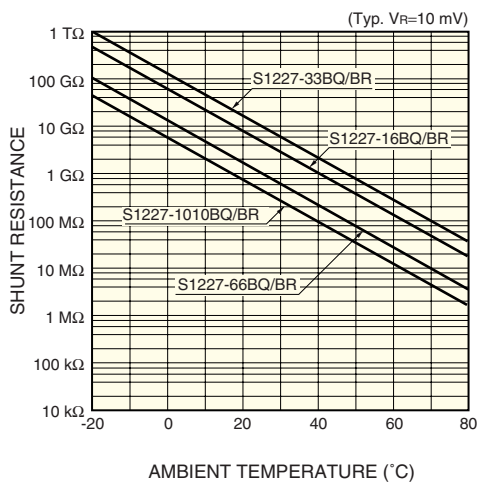
KSPDB0095EA

■ Dark current vs. reverse voltage



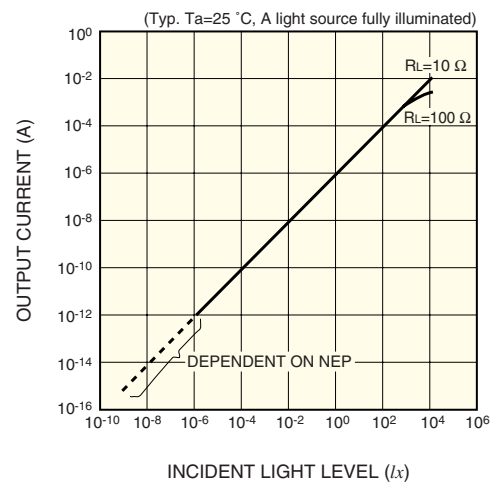
KSPDB0096EA

■ Shunt resistance vs. ambient temperature



KSPDB0097EA

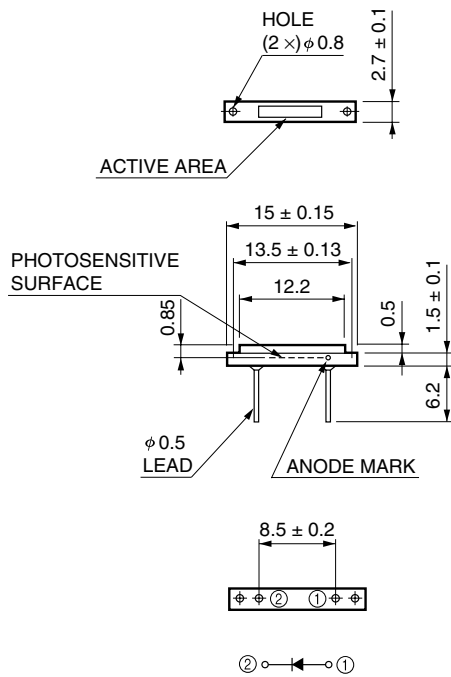
■ Photo sensitivity linearity (S1227-1010BQ/-1010BR)



KSPDB0028EB

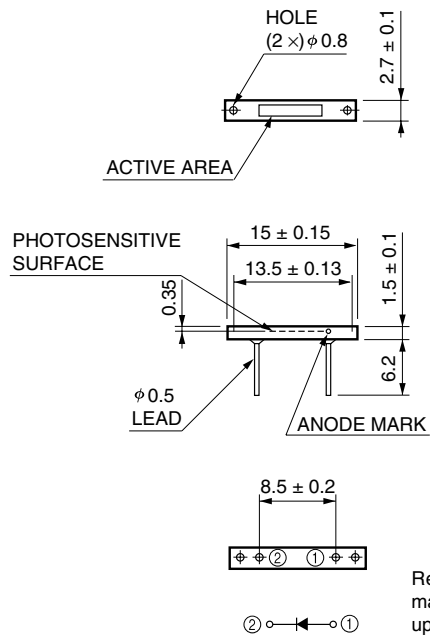
■ Dimensional outlines (unit: mm)

① S1227-16BQ



KSPDA0094EA

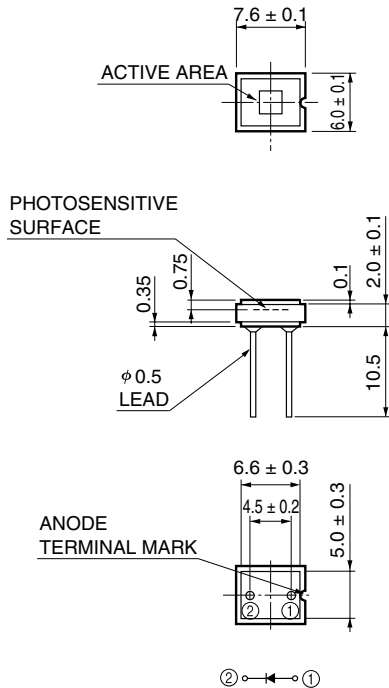
② S1227-16BR



KSPDA0095EA

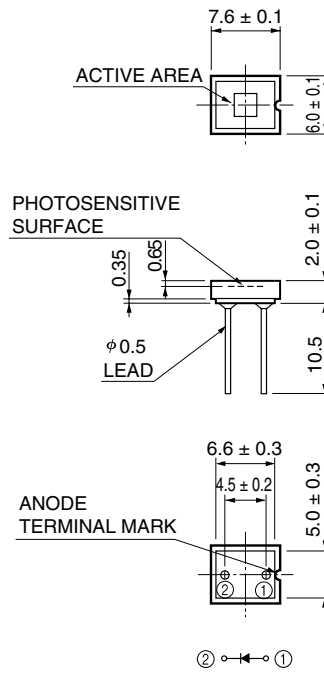
Resin coating may extend a maximum of 0.1 mm above the upper surface of the package.

③ S1227-33BQ



KSPDA0096EA

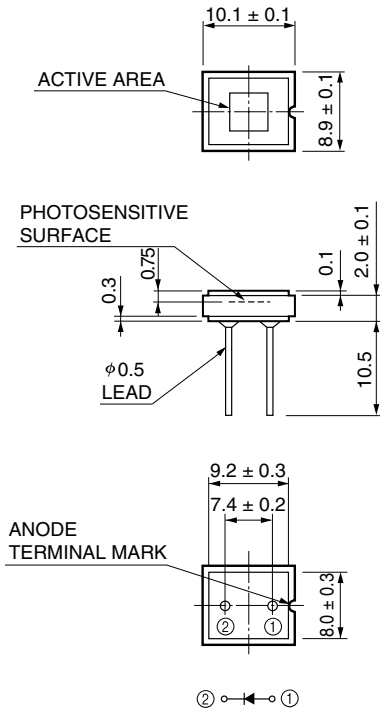
④ S1227-33BR



KSPDA0097EA

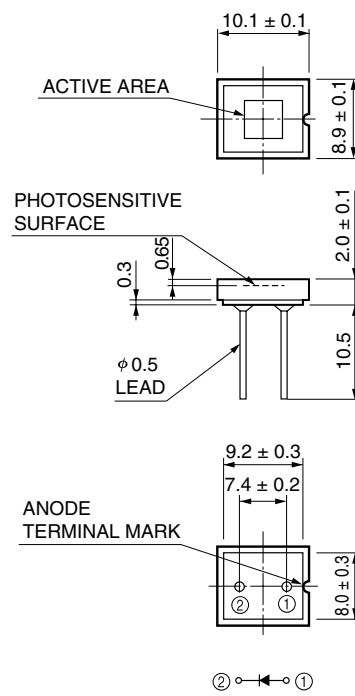
Resin coating may extend a maximum of 0.1 mm above the upper surface of the package.

⑤ S1227-66BQ



KSPDA0098EA

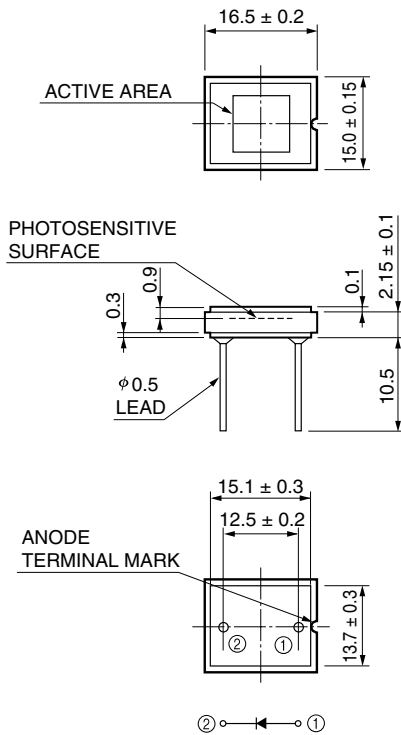
⑥ S1227-66BR



KSPDA0099EA

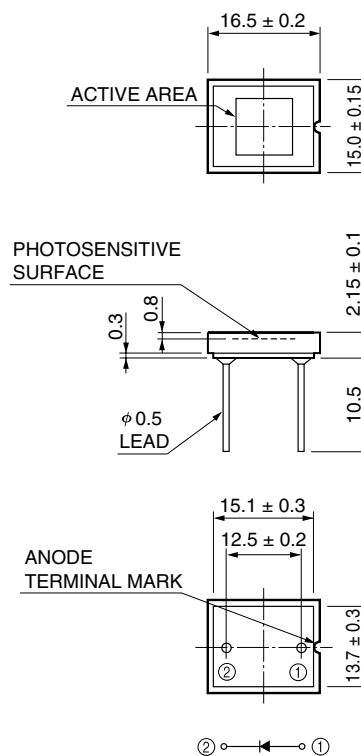
Resin coating may extend a maximum of 0.1 mm above the upper surface of the package.

⑦ S1227-1010BQ



KSPDA0100EA

⑧ S1227-1010BR



KSPDA0101EA

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

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HAMAMATSU PHOTONICS K.K., Solid State Division

1126-1 Ichino-cho, Hamamatsu City, 435-8558 Japan, Telephone: (81) 053-434-3311, Fax: (81) 053-434-5184, <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.: 8, 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 Tevin Road, Welwyn Garden City, Hertfordshire AL7 1BW, United Kingdom, Telephone: (44) 1707-294888, Fax: (44) 1707-325777

North Europe: Hamamatsu Photonics Norden AB: Smidsvågen 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