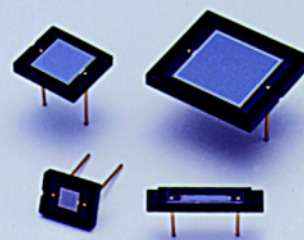


Si photodiode S1227 series

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

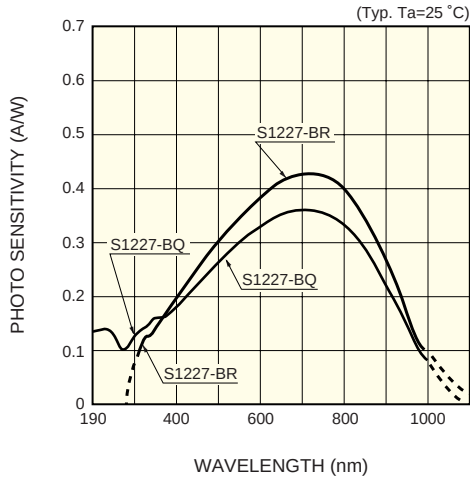
Type No.	Dimensional outline/ Window material *	Package	Active area size	Effective active area	Absolute maximum ratings		
					Reverse voltage VR Max. (V)	Operating temperature Topr (°C)	Storage temperature Tstg (°C)
S1227-16BQ	①/Q	2.7 × 15	1.1 × 5.9	5.9	5	-20 to +60	-20 to +80
S1227-16BR	②/R						
S1227-33BQ	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 kΩ (μs)	Terminal capacitance C _t V _R =0 V f=10 kHz (pF)	Shunt resistance R _{sh} V _R =10 mV (GΩ)		NEP (W/Hz ^{1/2})
			λ _p	200 nm		He-Ne Laser 633 nm	Min. (μA)	Typ. (μA)					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
S1227-16BR	320 to 1000	0.43		-	-	0.39	2.2	3.7	2.1 × 10 ⁻¹⁵						
S1227-33BQ	190 to 1000	0.36		0.10	0.12	0.34	2	3.0	5	0.5		160	2	20	2.5 × 10 ⁻¹⁵
S1227-33BR	320 to 1000	0.43		-	-	0.39	2.2	3.7							2.1 × 10 ⁻¹⁵
S1227-66BQ	190 to 1000	0.36		0.10	0.12	0.34	11	16	20	2		950	0.5	5	5.0 × 10 ⁻¹⁵
S1227-66BR	320 to 1000	0.43		-	-	0.39	13	19							4.2 × 10 ⁻¹⁵
S1227-1010BQ	190 to 1000	0.36		0.10	0.12	0.34	32	44	50	7		3000	0.2	2	8.0 × 10 ⁻¹⁵
S1227-1010BR	320 to 1000	0.43		-	-	0.39	36	53							6.7 × 10 ⁻¹⁵

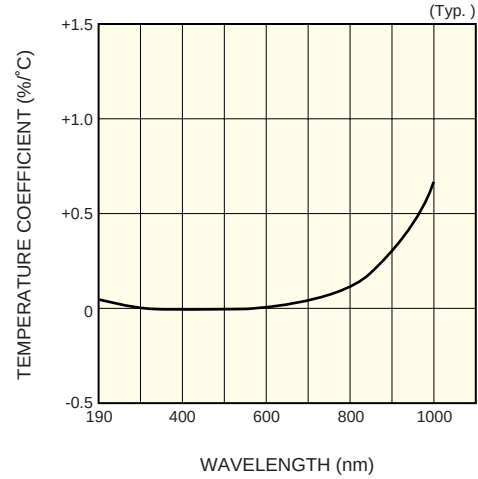
* Window material Q: quartz glass, R: resin coating

Spectral response



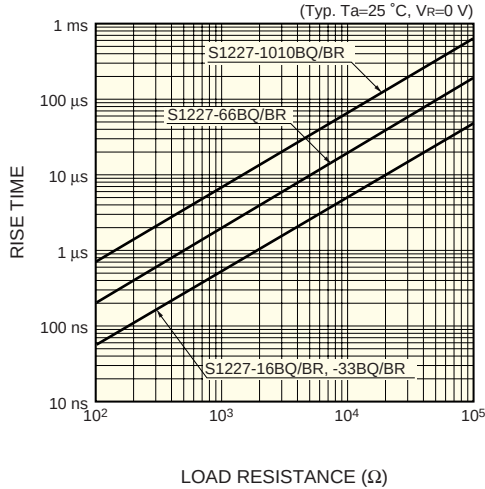
KSPDB0094EA

Photo sensitivity temperature characteristic



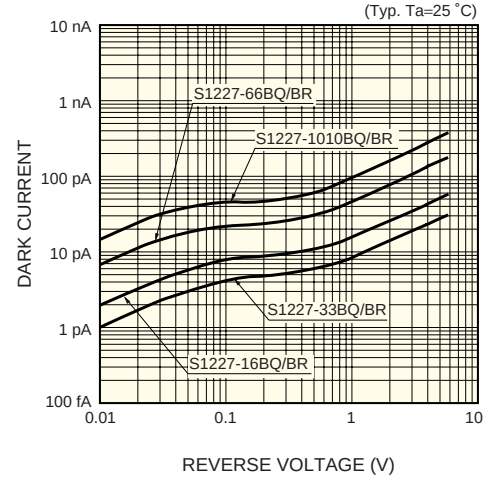
KSPDB0090EB

Rise time vs. load resistance



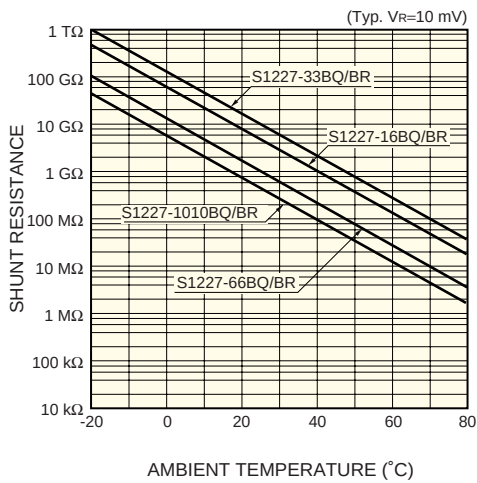
KSPDB0095EA

Dark current vs. reverse voltage



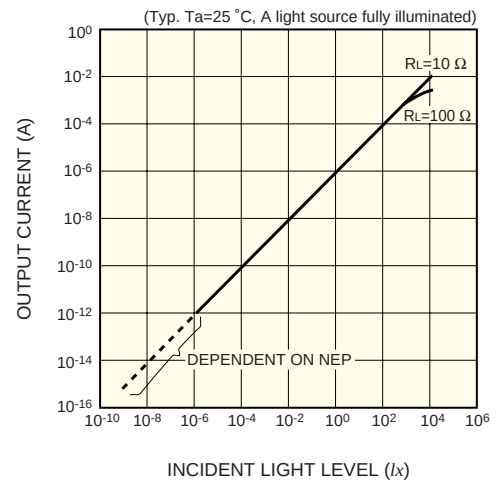
KSPDB0096EA

Shunt resistance vs. ambient temperature



KSPDB0097EA

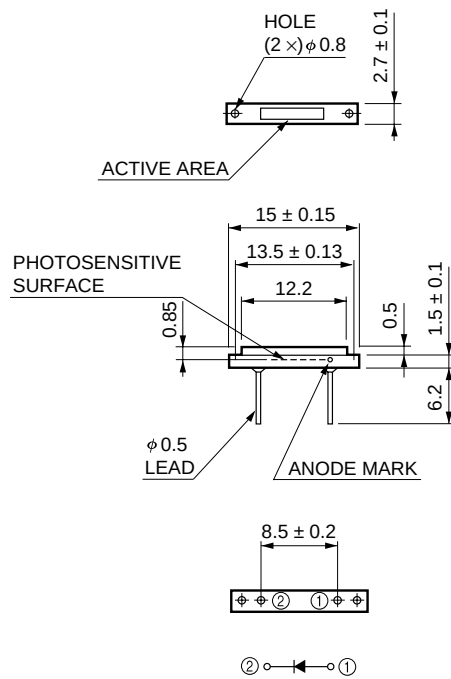
Photo sensitivity linearity (S1227-1010BQ/-1010BR)



KSPDB0098EB

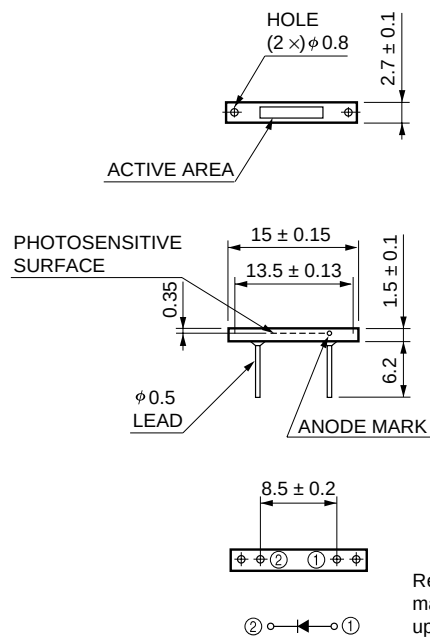
■ Dimensional outlines (unit: mm)

① S1227-16BQ



KSPDA0094EA

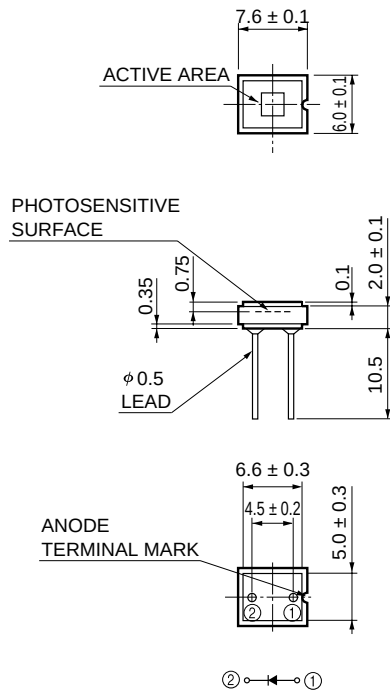
② S1227-16BR



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

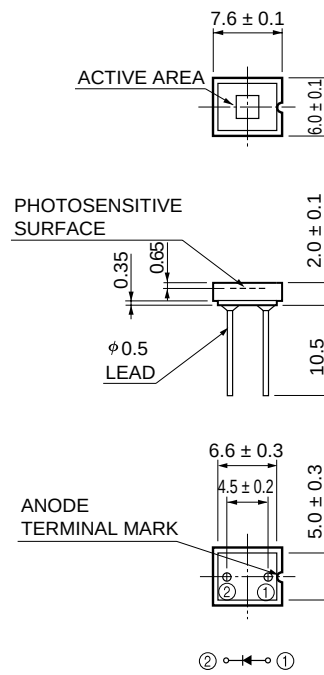
KSPDA0095EA

③ S1227-33BQ



KSPDA0096EA

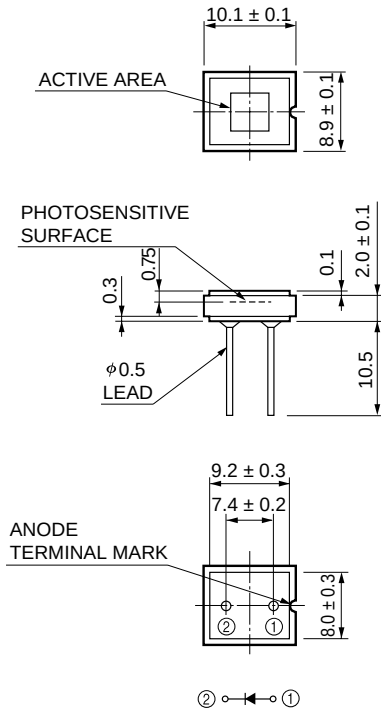
④ S1227-33BR



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

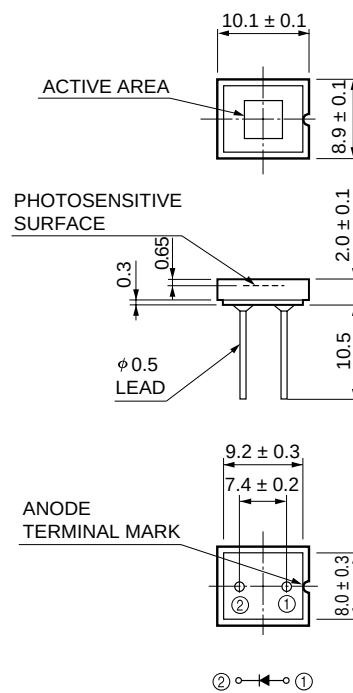
KSPDA0097EA

⑤ S1227-66BQ



KSPDA0098EA

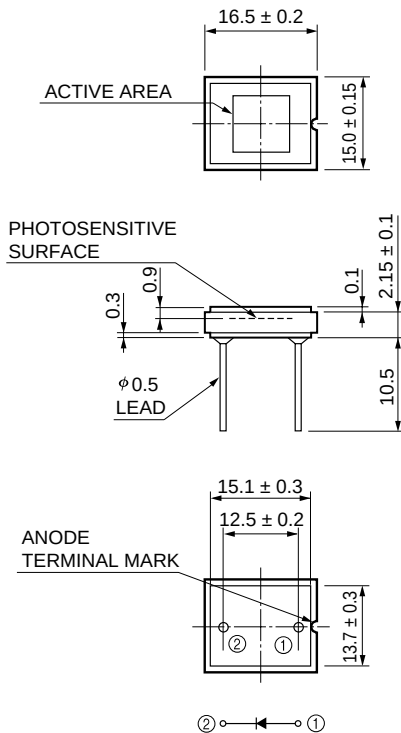
⑥ S1227-66BR



KSPDA0099EA

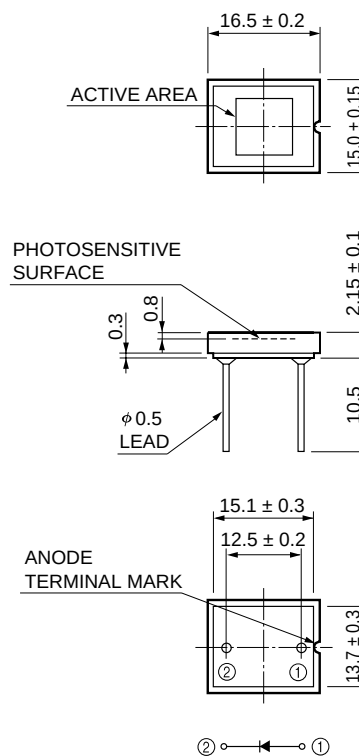
Resin coating may extend a maximum of 0.1 mm above the upper surface of the package.

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.

HAMAMATSU

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