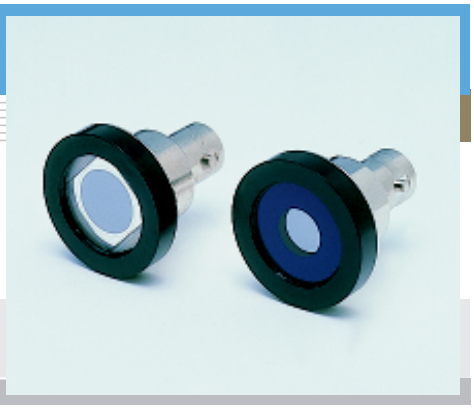


Si photodiode
S2281 series

Si photodiode with BNC connector

S2281 series is Si photodiodes sealed in a metal package with a BNC connector. This configuration allows easy connection to Hamamatsu C2719 photosensor amplifier (S2281-01 cannot be connected). Two different spectral response characteristics are provided and the large active area makes S2281 series well suited for optical power meters. A variant type S7160 with a visual compensation filter is also available. Hamamatsu also provides E2573 BNC-BNC coaxial cable (length: 1 m) as an option.

Features

- Metal package with BNC connector
- High sensitivity
- High reliability

Applications

- Analytical instruments
- Optical measurement equipment

■ General ratings

Parameter	S2281	S2281-01	S2281-04	Unit
Active area size	φ11.3	φ11.3	φ7.98	mm
Active area	100	100	50	mm^2
Package	Metal package with BNC connector			-
Window material	Quartz glass			-

■ Absolute maximum ratings

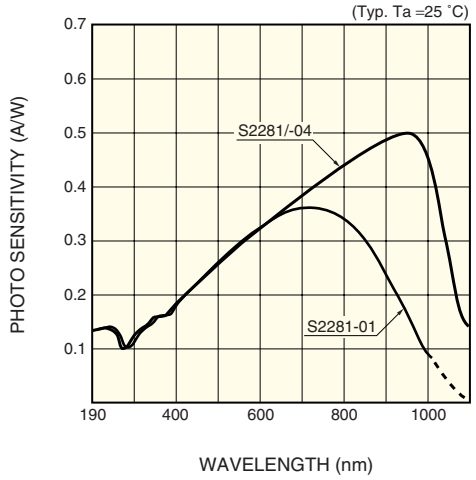
Parameter	Symbol	S2281	S2281-01	S2281-04	Unit
Reverse voltage	V_R Max.	5			V
Operating temperature	Topr	-10 to +60			°C
Storage temperature	Tstg	-20 to +70			°C

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

Parameter	Symbol	Condition	S2281			S2281-01			S2281-04			Unit
			Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
Spectral response range	λ		-	190 to 1100	-	-	190 to 1000	-	-	190 to 1100	-	nm
Peak sensitivity wavelength	λp		-	960	-	-	720	-	-	960	-	nm
Photo sensitivity	S	λ=200 nm	0.10	0.12	-	0.10	0.12	-	0.10	0.12	-	A/W
		λ=λp	-	0.5	-	-	0.36	-	-	0.5	-	
Short circuit current	Isc	100 *lx*	64	80	-	32	40	-	32	40	-	μA
Dark current	ID	V_R=10 mV	-	50	500	-	6	300	-	50	500	pA
Shunt resistance	Rsh	V_R=10 mV	20	200	-	30	1700	-	20	200	-	MΩ
Rise time	tr	V_R=0 V R_L=1 kΩ	-	3	-	-	7	-	-	3	-	μs
Terminal capacitance	Ct	V_R=0 V f=10 kHz	-	1300	-	-	3200	-	-	1300	-	pF
Noise equivalent power	NEP		-	2.0×10^{-14}	-	-	8.6×10^{-15}	-	-	1.8×10^{-14}	-	$W/Hz^{1/2}$

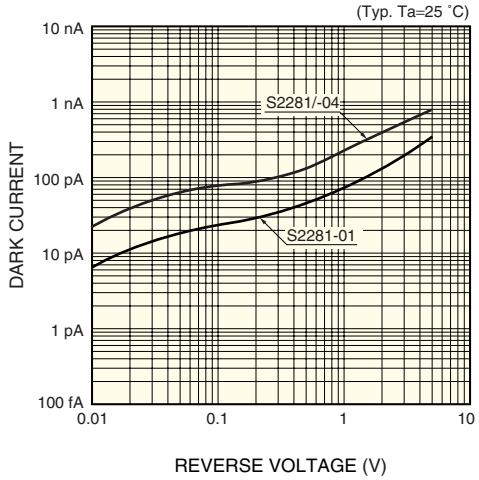
SOLID STATE DIVISION

■ Spectral response



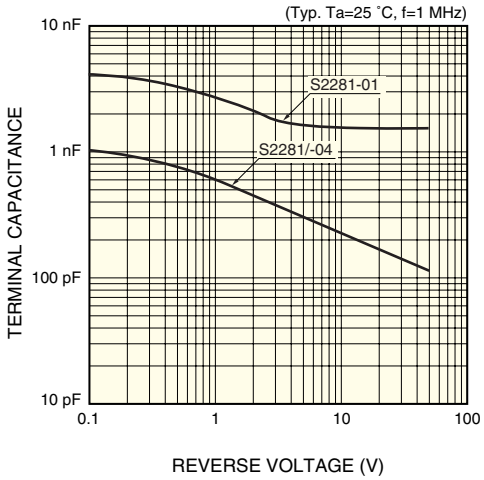
KSPDB0090EA

■ Dark current vs. reverse voltage



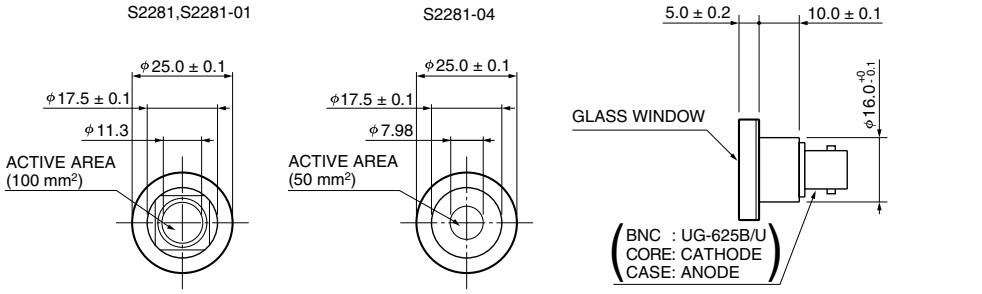
KSPDB0180EA

■ Terminal capacitance vs. reverse voltage



KSPDB0181EA

■ Dimensional outlines (unit: mm)



KSPDA0080EA

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 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. KSPD1044E01
Mar. 2001 DN