

Si PIN photodiode

S9055

Stable frequency response with no wavelength dependence in low frequency region



S9055 is a Si photodiode that delivers a high-speed response and stable gain (no drop in gain) in low frequency regions even at wavelengths longer than the peak wavelength as well as shorter wavelengths.

Features

- Better gain decrease in low frequency region: -0.5 dB Max. (f=100 MHz, $V_R=2$ V, $\lambda=830$ nm)
- High-speed response: 1.5 GHz ($V_R=2$ V, -3 dB)
- Active area: $\phi 0.2$ mm
- Highly reliable package: 3-pin TO-18 package

Applications

- Optical fiber communications
- High-speed measurement system

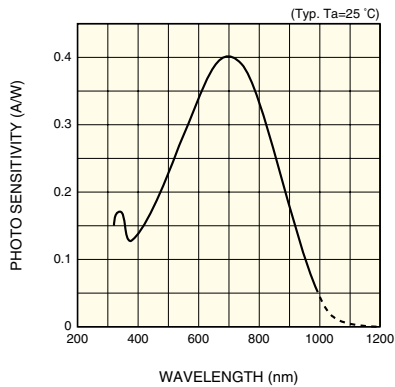
■ Absolute maximum ratings ($T_a=25$ °C)

Parameter	Symbol	Value	Unit
Reverse voltage	V_R Max.	20	V
Operating temperature	T_{opr}	-40 to +100	°C
Storage temperature	T_{stg}	-55 to +125	°C

■ Electrical and optical characteristics ($T_a=25$ °C)

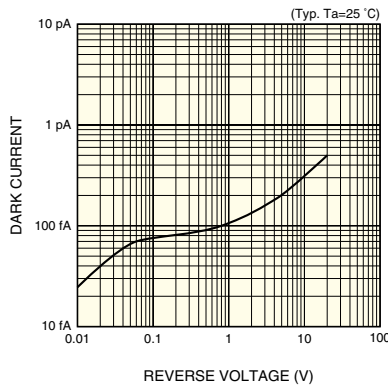
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Spectral response range	λ		-	320 to 1000	-	nm
Peak sensitivity wavelength	λ_p		-	700	-	nm
Photo sensitivity	S	$\lambda=\lambda_p$	-	0.4	-	A/W
Dark current	I_D	$V_R=2$ V	-	1	100	pA
Terminal capacitance	C_t	$V_R=2$ V, f=1 MHz	-	0.8	-	pF
Cut-off frequency	f_c	$V_R=2$ V, $R_L=25$ Ω -3dB	-	1.5	-	GHz

■ Spectral response



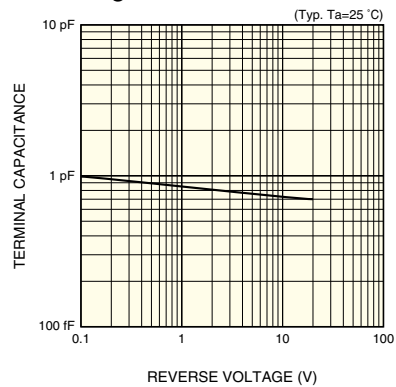
KPINB0274EA

■ Dark current vs. reverse voltage



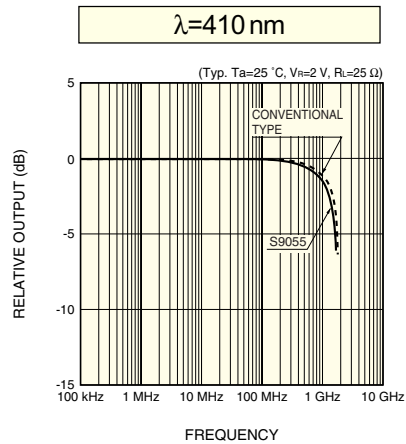
KPINB0275EA

■ Terminal capacitance vs. reverse voltage

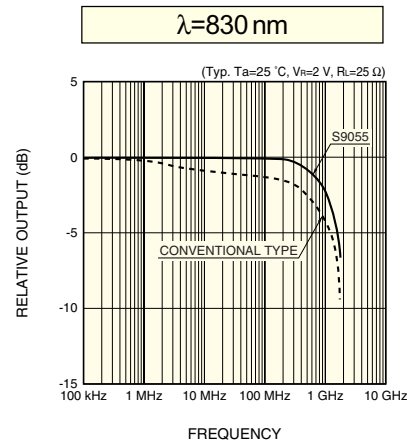


KPINB0276EA

■ Frequency characteristics

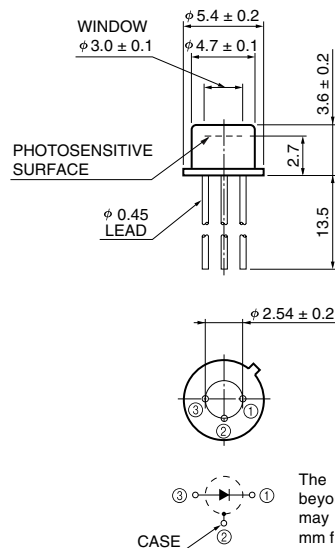


KPINB0277EA



KPINB0278EA

■ Dimensional outline (unit: mm)



The glass window does not extend beyond the upper edge of cap but may be recessed a maximum of 0.1 mm from the cap edge.

KPINA0071EA

HAMAMATSU

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