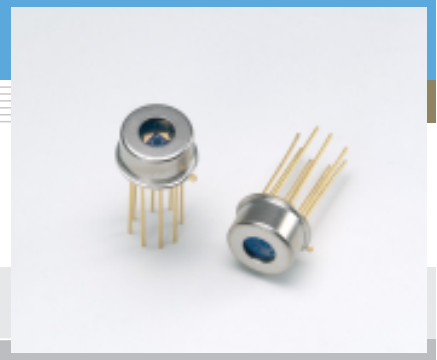


Si APD S4402

φ1 mm quadrant APD



Features

- Uniform element characteristics
Quadrant format on one chip with φ1 mm active area ensures uniform characteristics between elements.
- Single power supply operation
Allows easy and simple operation.

Applications

- Low-light-level detection
- Laser beam positioning

■ General ratings

Parameter	Symbol	Value	Unit
Window material	-	Borosilicate glass	-
Active area size	A	φ1 mm/4	mm
Effective active area	-	0.17 (per 1 element)	mm ²

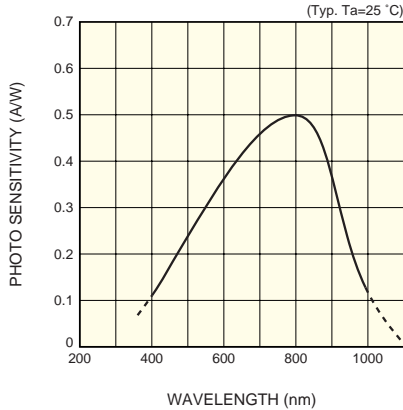
■ Absolute maximum ratings

Parameter	Symbol	Value	Unit
Operating temperature	T _{opr}	-20 to +60	°C
Storage temperature	T _{stg}	-55 to +100	°C

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

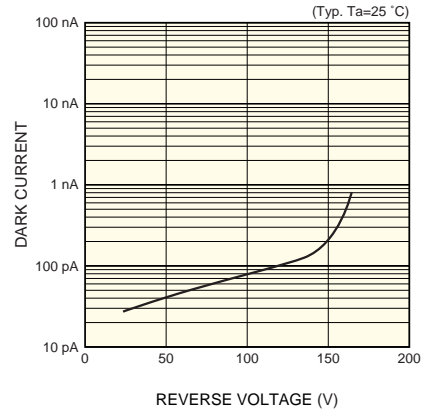
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Spectral response range	λ		-	400 to 1000	-	nm
Peak sensitivity wavelength	λ _p	M=100	-	800	-	nm
Photo sensitivity	S	λ=800 nm, M=1	-	0.5	-	A/W
Quantum efficiency	QE	λ=800 nm, M=1	-	75	-	%
Breakdown voltage	V _{BR}	I _R =100 μA	-	150	200	V
Temperature coefficient of V _{BR}	-			0.65	-	V/°C
Dark current	I _D	M=100	-	0.4	2.0	nA
Cut-off frequency	f _c	M=100, λ=800 nm R _L =50 Ω, -3 dB	-	310	-	MHz
Terminal capacitance	C _t	M=100, f=1 MHz	-	8	-	pF
Excess noise figure	x	M=50, f=10 kHz I _o =10 nA	-	0.35	-	-

■ Spectral response



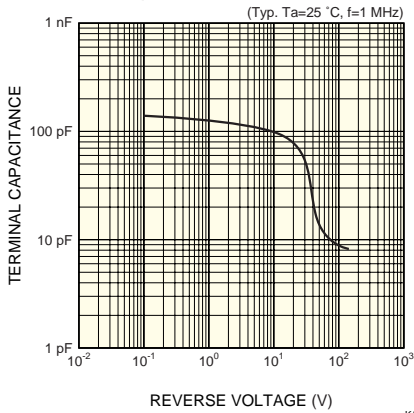
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■ Dark current vs. reverse voltage



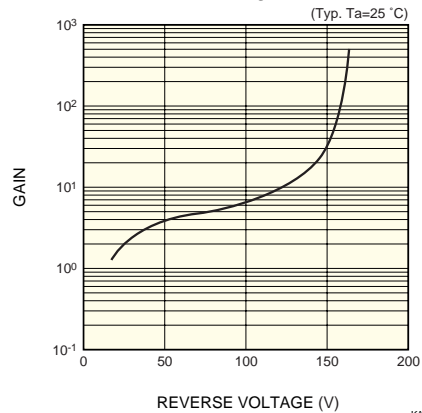
KAPDB0047EA

■ Terminal capacitance vs. reverse voltage



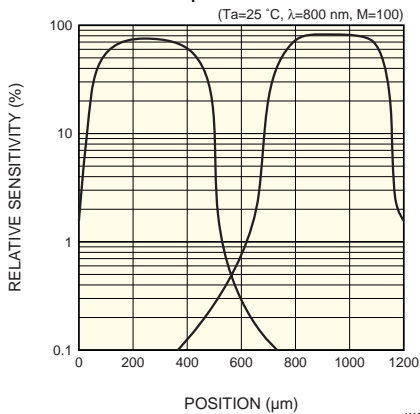
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■ Gain vs. reverse voltage



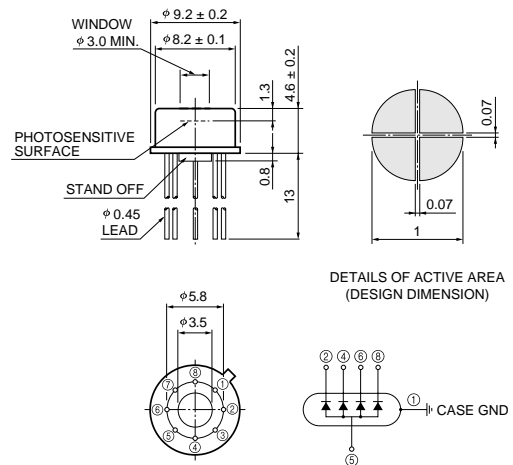
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■ Cross-talk example



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■ Dimensional outline (unit: mm)



KAPDA0021EA

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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 00

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

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