

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

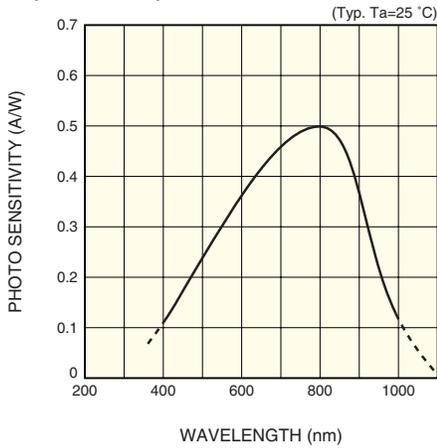
■ Absolute maximum ratings

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

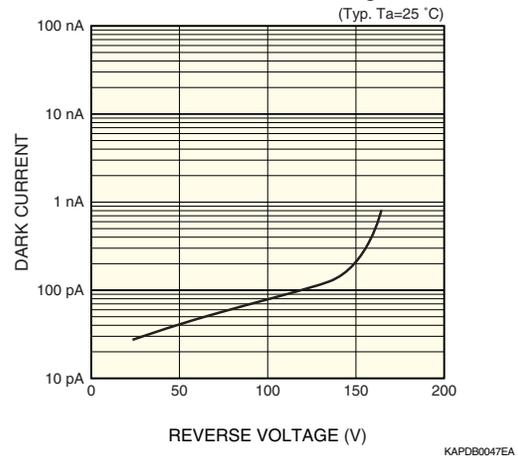
■ Electrical and optical characteristics (T_a=25 °C)

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	-	-

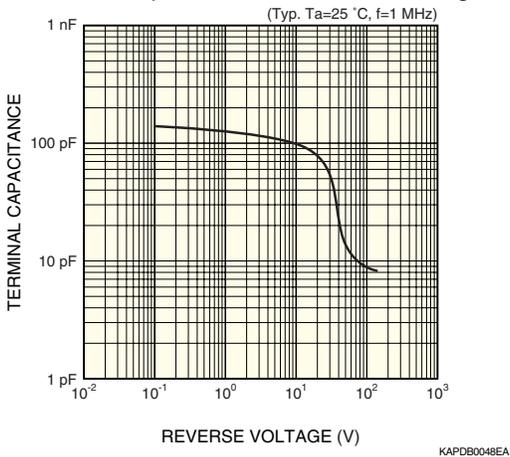
■ Spectral response



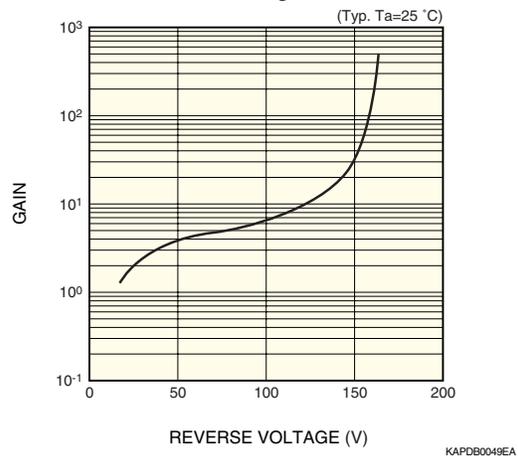
■ Dark current vs. reverse voltage



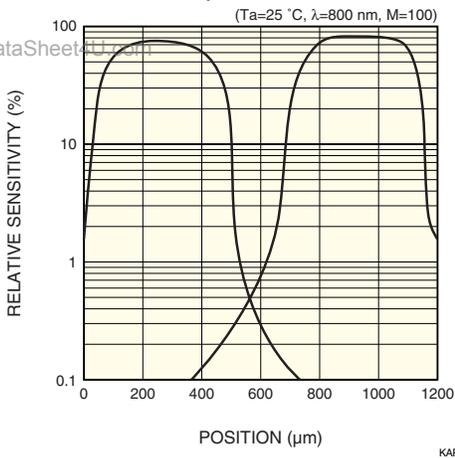
■ Terminal capacitance vs. reverse voltage



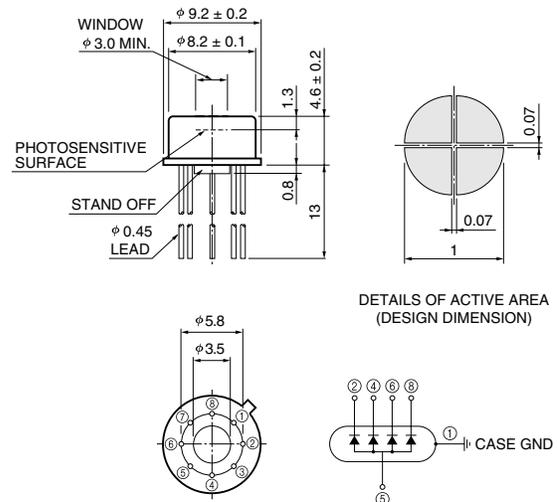
■ Gain vs. reverse voltage



■ Cross-talk example



■ Dimensional outline (unit: mm)



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