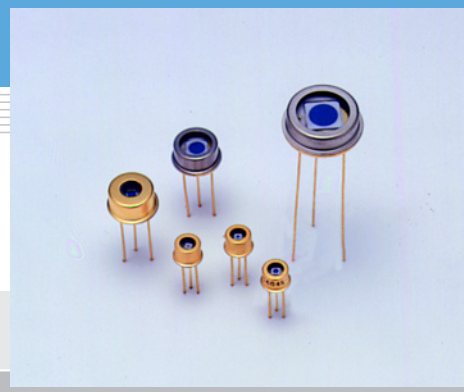


Si APD

S6045 series

Low temperature coefficient type APD for 800 nm band



Features

- Low temperature coefficient: 0.4 V/°C
- High-speed response
- High sensitivity, low noise

Applications

- Optical fiber communications
- Spatial light transmission
- Rangefinder

■ General ratings / Absolute maximum ratings

Type No.	Dimensional outline/ Window material *1	Package	Effective active area size *2 (mm)	Effective active area (mm ²)	Absolute maximum ratings	
					Operating temperature Topr (°C)	Storage temperature Tstg (°C)
S6045-01	①/K	TO-18	φ0.2	0.03	-40 to +85	-55 to +125
S6045-02			φ0.5	0.19		
S6045-03			φ1.0	0.78		
S6045-04	②/K	TO-5	φ1.5	1.77		
S6045-05	③/K		φ3.0	7.0		
S6045-06	④/K	TO-8	φ5.0	19.6		

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

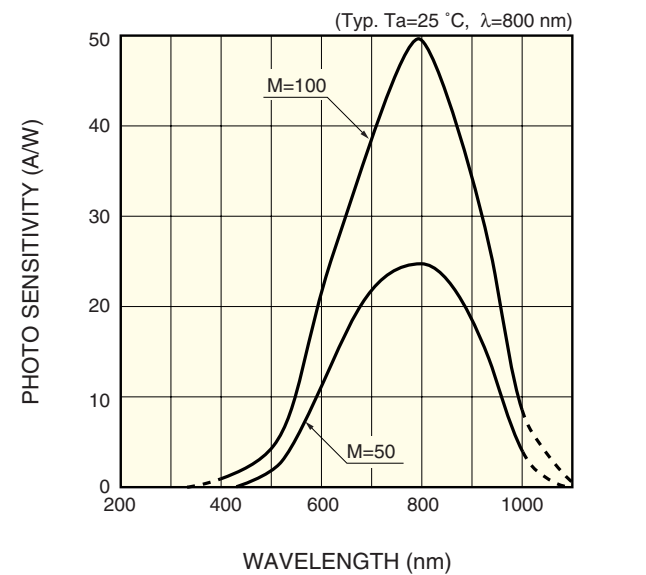
Type No.	Spectral response range λ (nm)	Peak *3 sensitivity wavelength λ_p (nm)	Photo sensitivity S M=1 $\lambda=800$ nm (A/W)	Quantum efficiency QE M=1 $\lambda=800$ nm (%)	Breakdown voltage VBR ID=100 μ A		Temp. coefficient of VBR (V/°C)	Dark current *3 ID		Cut-off frequency *3 fc RL=50 Ω (MHz)	Terminal capacitance *3 Ct (pF)	Excess noise figure *3 x $\lambda=800$ nm	Gain M $\lambda=800$ nm
					Typ. (V)	Max. (V)		Typ. (nA)	Max. (nA)				
S6045-01	400 to 1000	800	0.5	75	200	300	0.4	0.05	0.5	1000	1.5	0.3	100
S6045-02								0.1	1	900	3		
S6045-03								0.2	2	600	6		
S6045-04								0.5	5	350	12		
S6045-05								1	10	80	50		60
S6045-06								3	30	35	120		40

*1: K: borosilicate glass

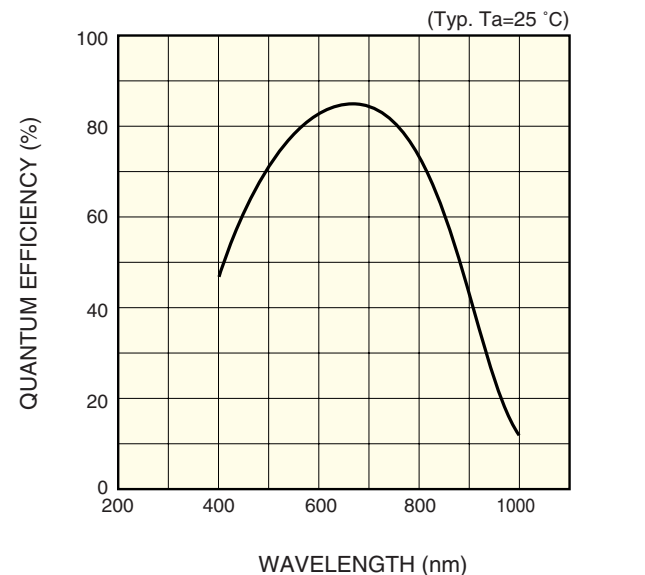
*2: Area in which a typical gain can be obtained.

*3: Values measured at a gain listed in the characteristics table.

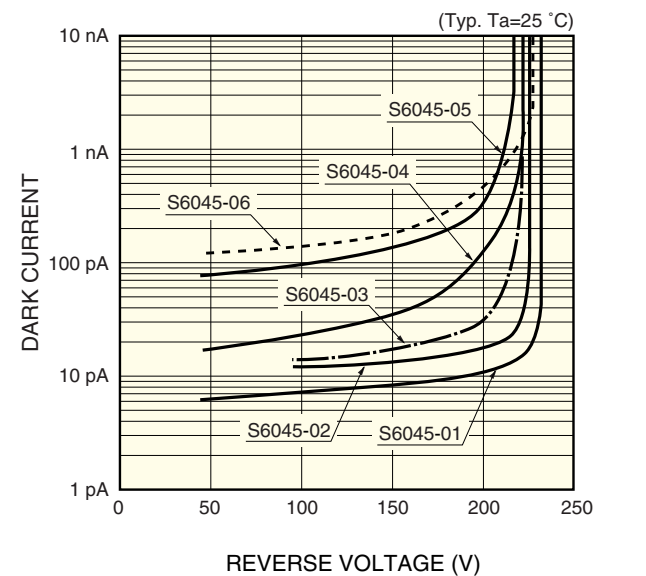
■ Spectral response



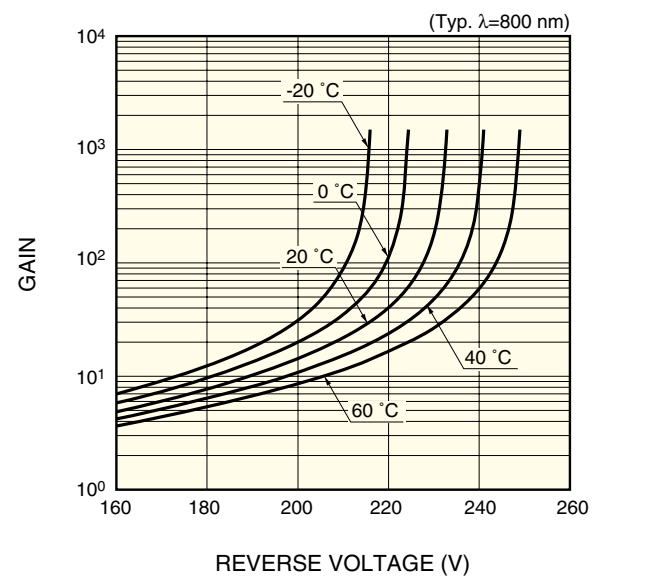
■ Quantum efficiency vs. wavelength



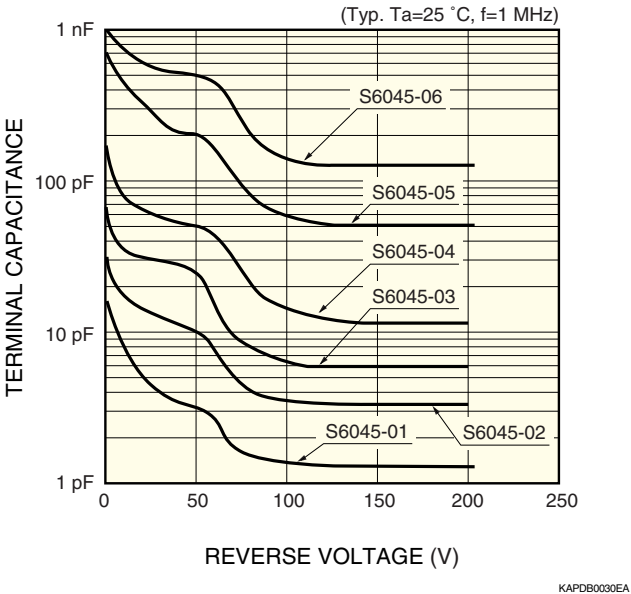
■ Dark current vs. reverse voltage



■ Gain vs. reverse voltage

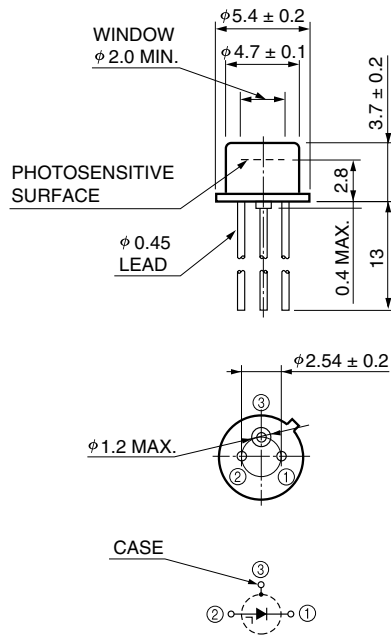


■ Terminal capacitance vs. reverse voltage



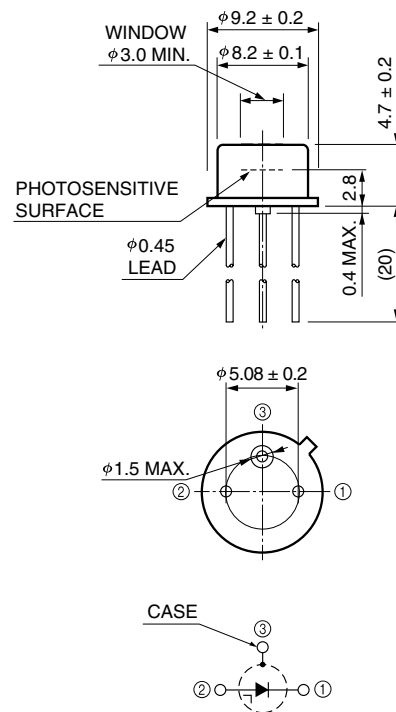
■ Dimensional outlines (unit: mm)

① S6045-01/-02/-03



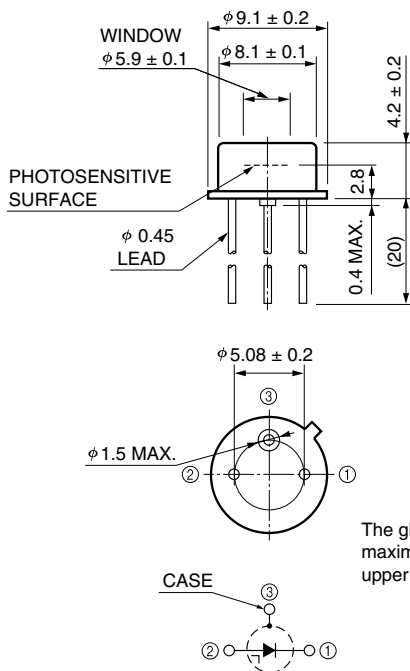
KAPDA0010EA

② S6045-04



KAPDA0011EB

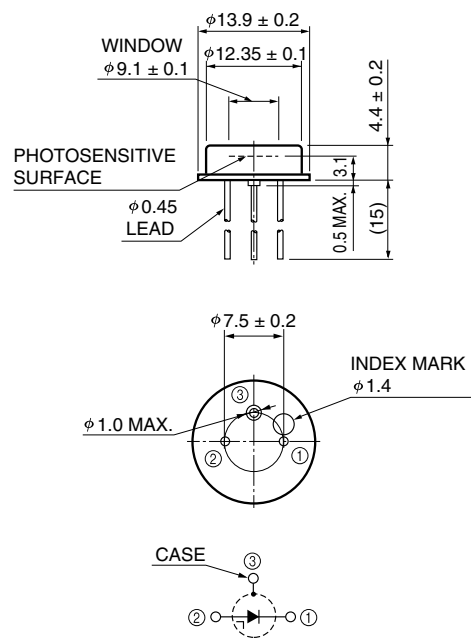
③ S6045-05



The glass window may extend a maximum of 0.2 mm above the upper surface of the cap.

KAPDA0012EB

④ S6045-06



KAPDA0013EC

HAMAMATSU

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