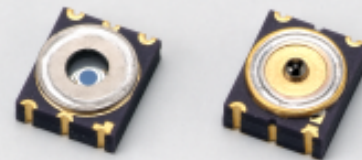


Si APD

S9717 series



High reliability, surface-mount ceramic package

S9717 series are Si APD (avalanche photodiodes) encapsulated in a surface-mount ceramic package that ensures high reliability in the same wide operating temperature range (-20 to +85 °C) as metal package devices. S9717 series also allows downsizing of equipment in various photometric application fields.

Features

- Surface-mount package with high reliability equivalent to metal package
(No dark current increase after high temperature/humidity testing at 85 °C, 85 % for 1000 hours.)
- Small, thin package: 3.5 × 4.0 mm
- S9717-02K/-05K: Flat glass window
S9717-05L: Lens glass window

Applications

- Rangefinder
- Laser rader
- Spatial light transmission

General ratings

Parameter	S9717-02K	S9717-05K	S9717-05L	Unit
Active area size	φ0.2	φ0.5	φ0.5	mm
Window material	Borosilicate glass		Borosilicate glass, φ0.8 lens	-

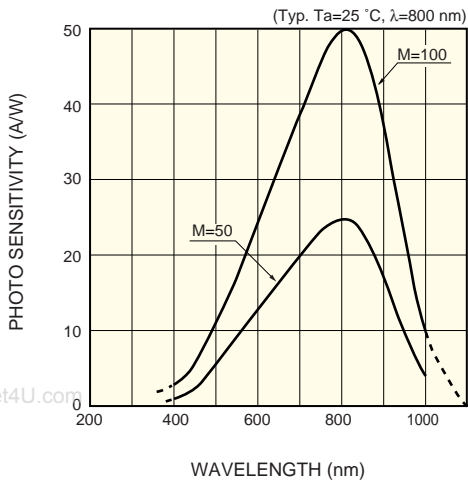
Absolute maximum ratings

Parameter	Symbol	Value	Unit
Operating temperature	Topr	-20 to +85	°C
Storage temperature	Tstg	-55 to +125	°C

Electrical and optical characteristics (Typ. Ta=25 °C)

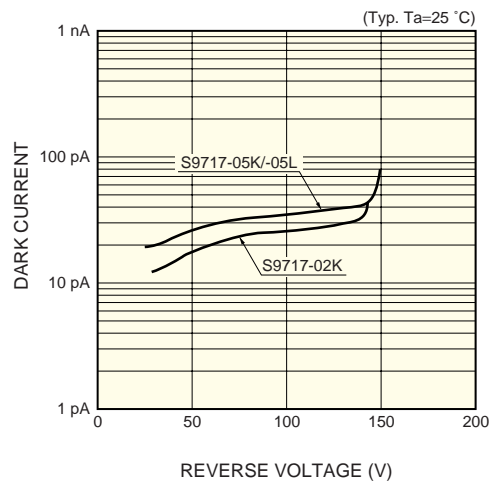
Parameter	Symbol	Condition	S9717-02K	S9717-05K	S9717-05L	Unit	
Spectral response range	λ		400 to 1000			nm	
Peak sensitivity wavelength	λ_p	M=100	800			nm	
Photo sensitivity	S	$\lambda=800$ nm, M=1	0.5			A/W	
Breakdown voltage	VBR	Id=100 μ A	Typ.	150		V	
			Max.	200			
Temp. coefficient of VBR	-		0.65			V/°C	
Dark current	Id	M=100	Typ.	50	100	100	pA
			Max.	500	1000	1000	
Terminal capacitance	Ct	M=100, f=1 MHz	1.5	3	3	pF	
Cut-off frequency	fc	M=100, RL=50 Ω $\lambda=800$ nm, -3 dB	1000	900	900	MHz	
Excess noise figure	x	M=100	0.3			-	
Gain	M	$\lambda=800$ nm	100			-	

■ Spectral response



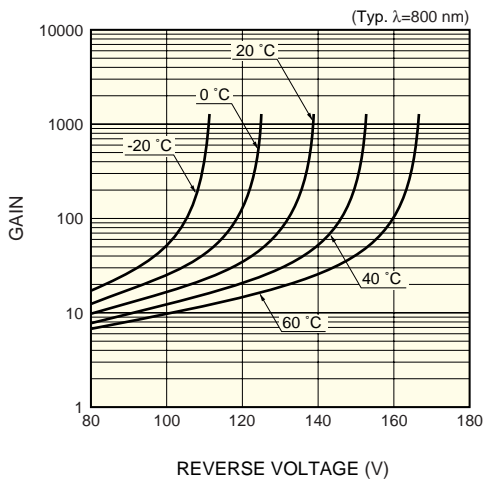
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■ Dark current vs. reverse voltage



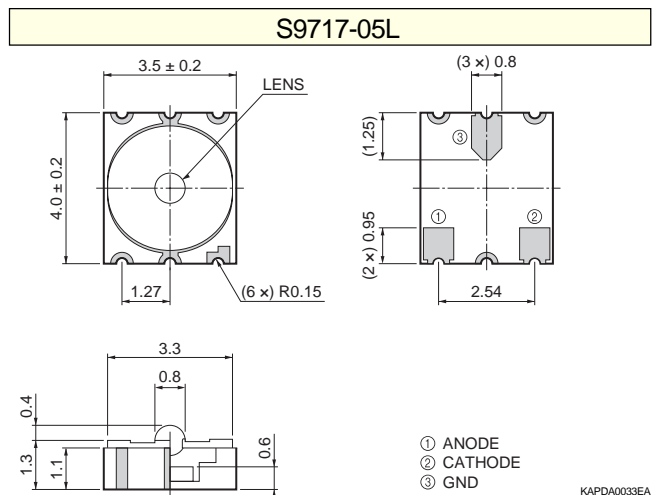
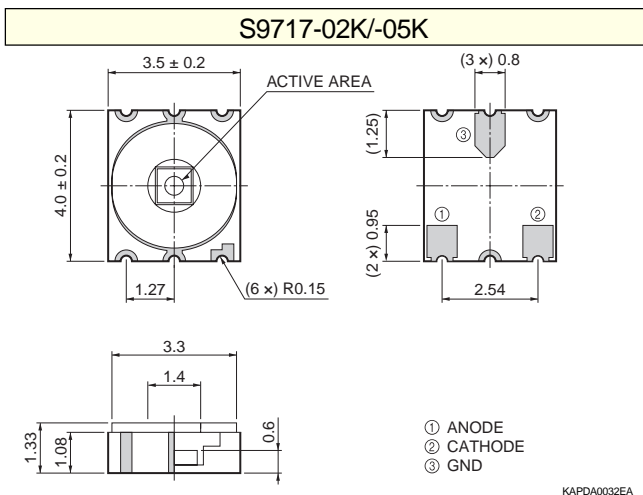
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■ Gain vs. reverse voltage



KAPDB0017EC

■ Dimensional outlines (unit: mm)



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