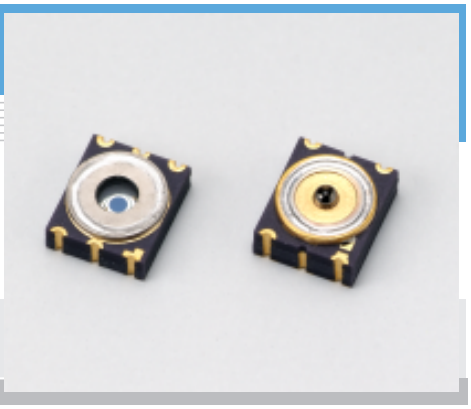
Si APD
S9717 series

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

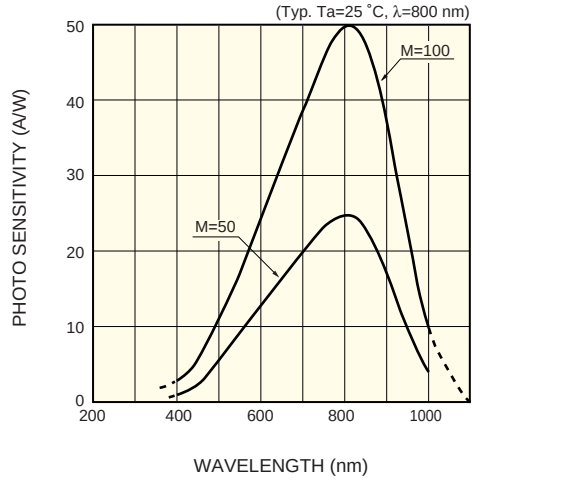
Parameter	Symbol	Value	Unit
Operating temperature	Topr	-20 to +85	°C
Storage temperature	Tstg	-55 to +125	°C

■ 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	λp	M=100		800			nm
Photo sensitivity	S	λ=800 nm, M=1		0.5			A/W
Breakdown voltage	V_{BR}	I_D=100 μA	Typ.	150			V
			Max.	200			
Temp. coefficient of V_{BR}	-			0.65			V/°C
Dark current	I_D	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, R_L=50 Ω λ=800 nm, -3 dB		1000	900	900	MHz
Excess noise figure	x	M=100		0.3			-
Gain	M	λ=800 nm		100			-

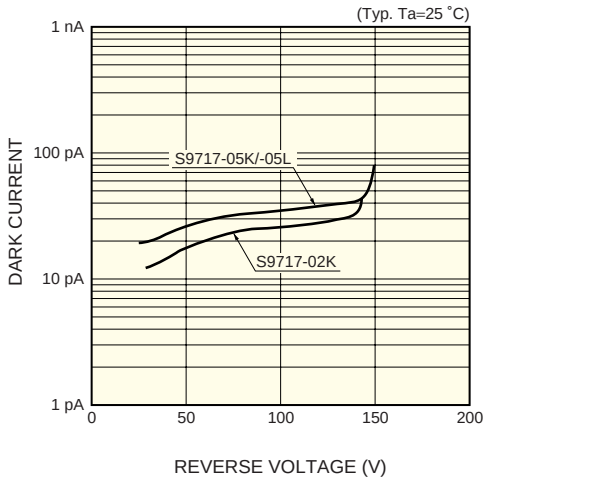
SOLID STATE DIVISION

■ Spectral response



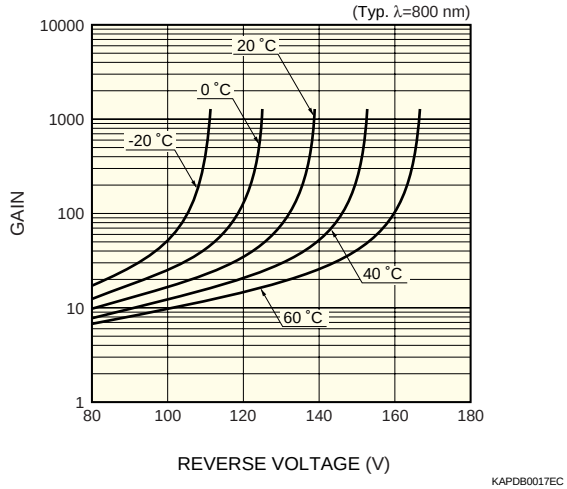
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■ Dark current vs. reverse voltage



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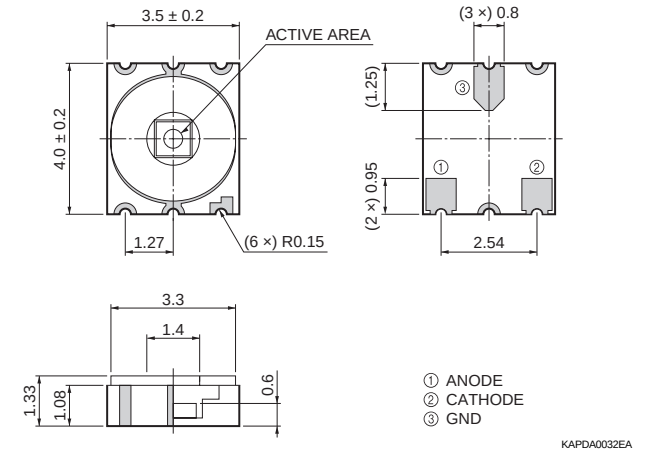
■ Gain vs. reverse voltage



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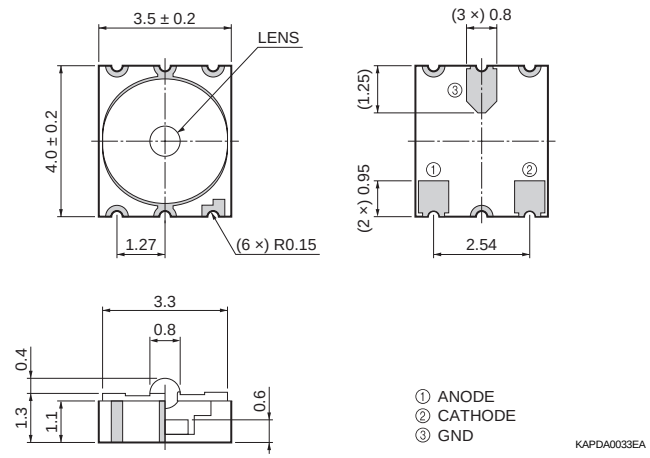
■ Dimensional outlines (uint: mm)

S9717-02K/-05K



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S9717-05L



KAPDA0033EA

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HAMAMATSU PHOTONICS K.K., Solid State Division
1126-1 Ichino-cho, Higashi-ku, Hamamatsu City, 435-8558 Japan, Telephone: (81) 53-434-3311, Fax: (81) 53-434-5184, 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.: 19, 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

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