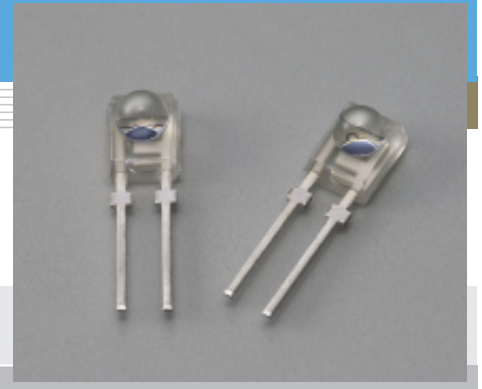


# Si PIN photodiode

## S7797, S5052, S8255, S5573

φ3 mm lens plastic package



These Si PIN photodiodes are molded into to a clear plastic package with a φ3 mm lens. To meet your application, various types are available with different time response characteristics.

### Features

- Clear plastic package with φ3 mm lens
- High-speed response
  - S7797: 500 MHz Typ. ( $V_R=2.5$  V)
  - S5052: 500 MHz Typ. ( $V_R=5$  V)
  - S8255: 200 MHz Typ. ( $V_R=5$  V)
  - S5573: 80 MHz Typ. ( $V_R=5$  V)

### Applications

- Laser diode monitor in optical disk drive (high-speed APC)
- Spatial light transmission

### General ratings / Absolute maximum ratings

Type No.	Package (mm)	Active area size (mm)	Effective active area (mm <sup>2</sup> )	Absolute maximum ratings			
				Reverse voltage $V_R$ Max. (V)	Power dissipation P (mW)	Operating temperature $T_{opr}$ (°C)	Storage temperature $T_{stg}$ (°C)
S7797	Plastic package with lens	φ3.0	7.0	20	50	-25 to +85	-40 to +100
S5052							
S8255							
S5573							

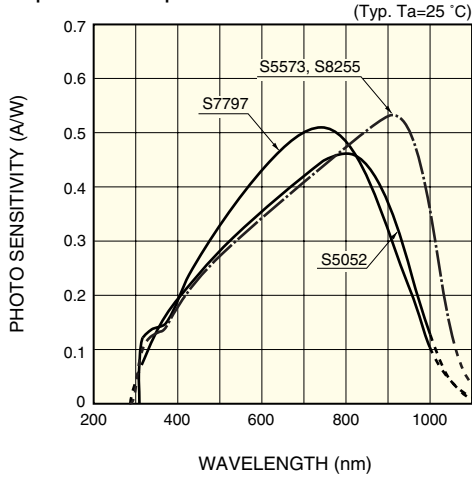
### Electrical and optical characteristics (Typ. $T_a=25$ °C, unless otherwise noted)

Type No.	Spectral response range $\lambda$ (nm)	Peak sensitivity wavelength $\lambda_p$ (nm)	Photo sensitivity S (A/W)				Short circuit current $I_{sc}$ 100 lx 2856 K (μA)	Dark current $I_D$ (nA)		Temp. coefficient of $I_D$ $T_{CID}$ (times/°C)	Cut-off frequency $f_c$ $R_L=50 \Omega$ -3dB (MHz)	Terminal capacitance $C_t$ $f=1$ MHz (pF)	NEP (W/Hz <sup>1/2</sup> )
			$\lambda_p$	660 nm	780 nm	830 nm		Typ.	Max.				
S7797	320 to 1000	760	0.52	0.48	0.51	0.48	2.8	0.01 *1	0.3 *1	1.15	500 *1	6 *1	$3.4 \times 10^{-15}$ *1
S5052		800	0.46	0.4	0.45	0.45	2.8	0.02 *2	0.3 *2		500 *2	4 *2	$5.5 \times 10^{-15}$ *2
S8255	320 to 1060	900	0.53	0.4	0.48	0.5	4.0	0.01 *2	1 *2	1.15	200 *2	3 *2	$3.4 \times 10^{-15}$ *2
S5573							4.5	0.025 *2	1 *2		80 *2		$5.3 \times 10^{-15}$ *2

\*1:  $V_R=2.5$  V

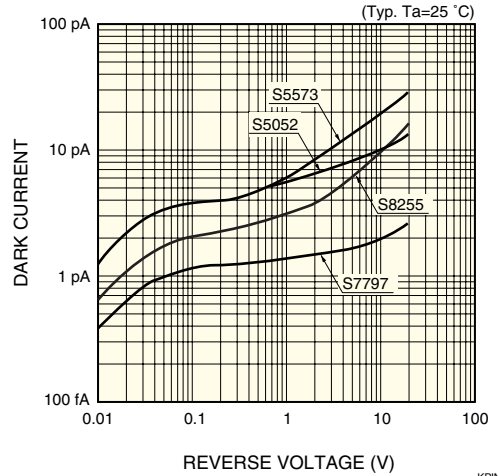
\*2:  $V_R=5$  V

■ Spectral response



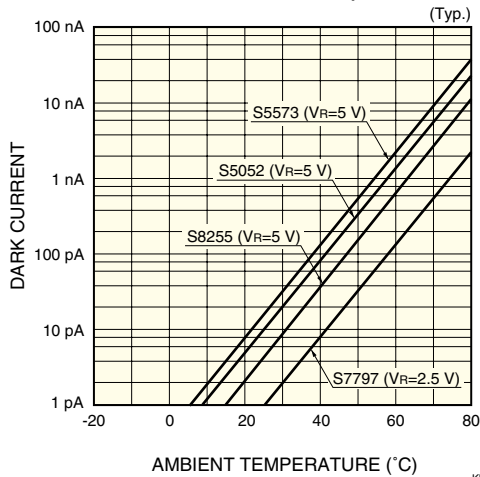
KPINB0176EA

■ Dark current vs. reverse voltage



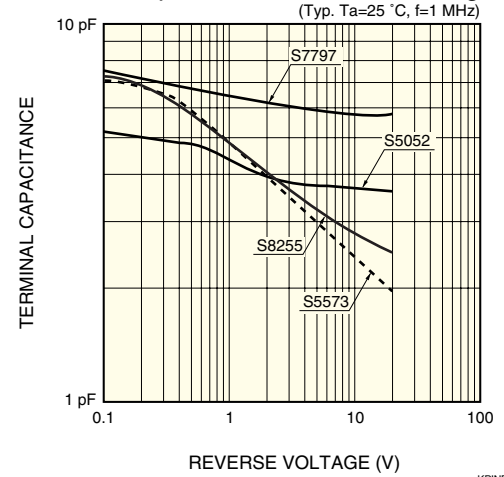
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■ Dark current vs. ambient temperature



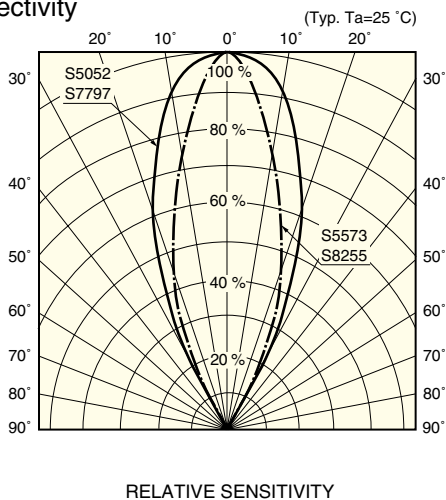
KPINB0178EA

■ Terminal capacitance vs. reverse voltage



KPINB0179EA

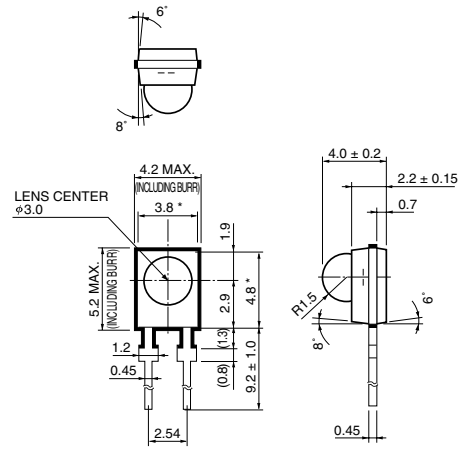
■ Directivity



KPINB0180EA

■ Dimensional outline

(unit: mm, tolerance unless otherwise noted: ±0.1)



Chip position accuracy with respect to the package dimension marked \*  
X, Y: ±0.2  
θ: ±2°

KPINA0032EA

**HAMAMATSU**

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