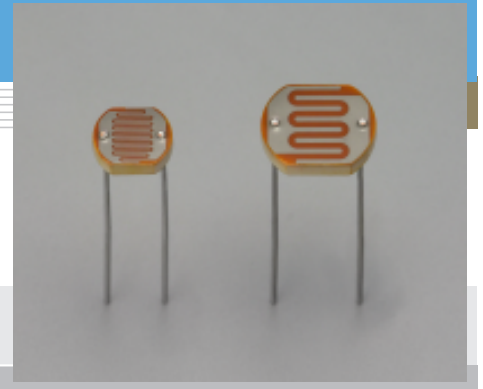


# CdS photoconductive cell Resin coating type (7R,10R type)

Standard type designed to withstand high voltage and high power



CdS photoconductive cells utilize photoconductive effects in semiconductors that decrease their resistance when illuminated by light. These sensors are non-polar resistive elements with spectral response characteristics close to the human eye (luminous efficiency), thus making their operating circuits simple and small.

### Features

- Small size, thin substrate
- Low price
- Suitable for high voltage and high power application

### Applications

- Auto dimmer for digital display, CRT and room illumination
- Automatic light on/off sensor
- Sensor for electronic toy and teaching aid material

### ■ Absolute maximum ratings / Characteristics (Typ. Ta=25 °C, unless otherwise noted)

Type No.	Dimensional outline	Absolute maximum ratings			Characteristics *1						
		Supply voltage (Vdc)	Power dissipation P (mW)	Ambient temperature Ta (°C)	Peak sensitivity wavelength λp (nm)	Resistance *2			γ <sub>10</sub> <sup>100</sup> *4	Response time 10 lx *5	
						10 lx, 2856 K		0 lx *3		Rise time tr (ms)	Fall time tf (ms)
						Min. (kΩ)	Max. (kΩ)	Min. (MΩ)			
7R type											
P380-7R	①	200	50	-30 to +50	620	4.4	13	20	0.85	35	20
P722-7R		100	150	-30 to +60	560	2.5	7.5	0.5	0.70	50	40
P1195		200	100	-30 to +70	550	50	150	20	0.90	40	10
P1202-12		100	150	-30 to +60	560	3.5	14	0.5	0.70	50	40
P1202-16		200	100		550	23	67	20	0.90	30	10
10R type											
P722-10R	②	200	300	-30 to +60	560	12	36	0.5	0.70	50	40
P1096-06		100	100		550	2.8	8.4		0.75		

\*1: All characteristics are measured after exposure to light (100 to 500 lx) for one to two hours.

\*2: The light source is a standard tungsten lamp operated at a color temperature of 2856 K.

\*3: Measured 10 seconds after removal of light of 10 lx.

\*4: Typical gamma characteristics (within ±0.10 variations) between 100 lx to 10 lx

$$\gamma_{10}^{100} = \frac{|\log(R_{100}) - \log(R_{10})|}{|\log(E_{100}) - \log(E_{10})|}$$

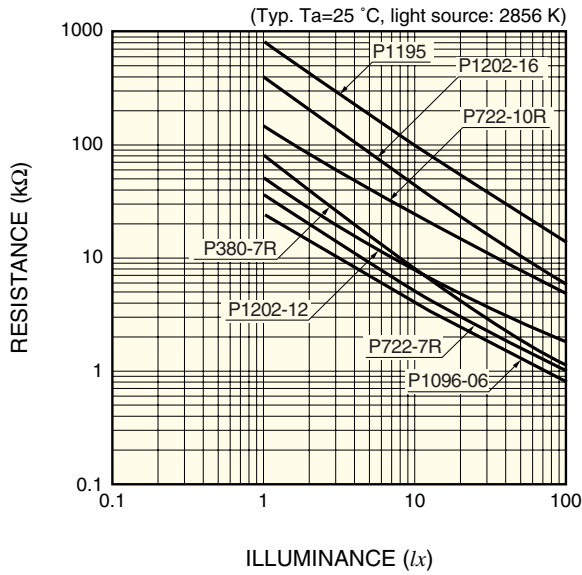
E<sub>100</sub>, E<sub>10</sub>: illuminance 100 lx, 10 lx

R<sub>100</sub>, R<sub>10</sub>: resistance at 100 lx and 10 lx respectively

\*5: The rise time is the time required for the sensor resistance to reach 63 % of the saturated conductance level (resistance when fully illuminated). The fall time is the time required for the sensor resistance to decay from the saturated conductance level to 37 %.

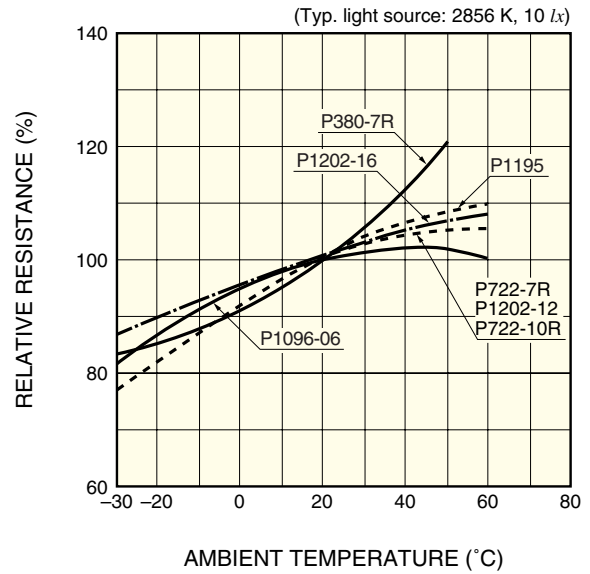
# CdS photoconductive cell Resin coating type (7R,10R type)

## ■ Resistance vs. illuminance



KCDSB0018EA

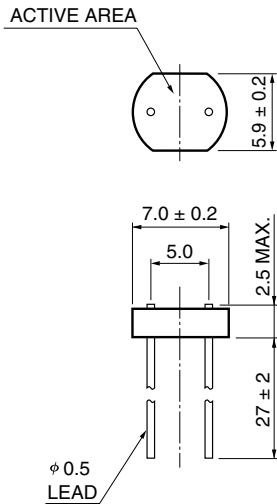
## ■ Resistance vs. ambient temperature



KCDSB0019EA

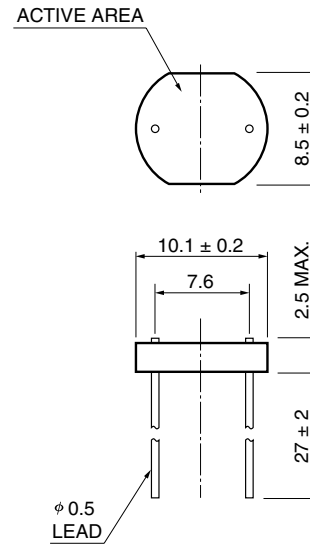
## ■ Dimensional outlines (unit: mm)

### ① 7R type



KCDSA0002EA

### ② 10R type



KCDSA0003EA

# HAMAMATSU

Information furnished by HAMAMATSU is believed to be reliable. However, no responsibility is assumed for possible inaccuracies or omissions. Specifications are subject to change without notice. No patent rights are granted to any of the circuits described herein. ©2001 Hamamatsu Photonics K.K.

HAMAMATSU PHOTONICS K.K., Solid State Division

1126-1 Ichino-cho, Hamamatsu City, 435-8558 Japan, Telephone: (81) 053-434-3311, Fax: (81) 053-434-5184, <http://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.: 8, 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

Cat. No. KCDS1002E01  
Apr. 2001 DN