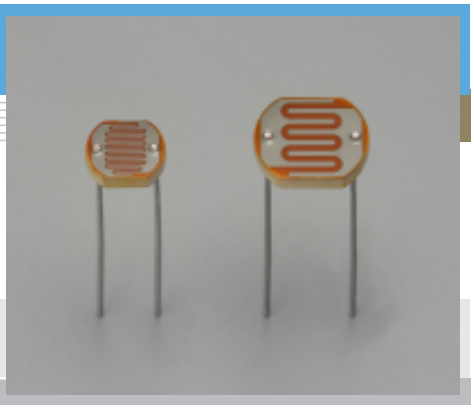
CdS photoconductive cell
Resin coating type (7R,10R type)



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)

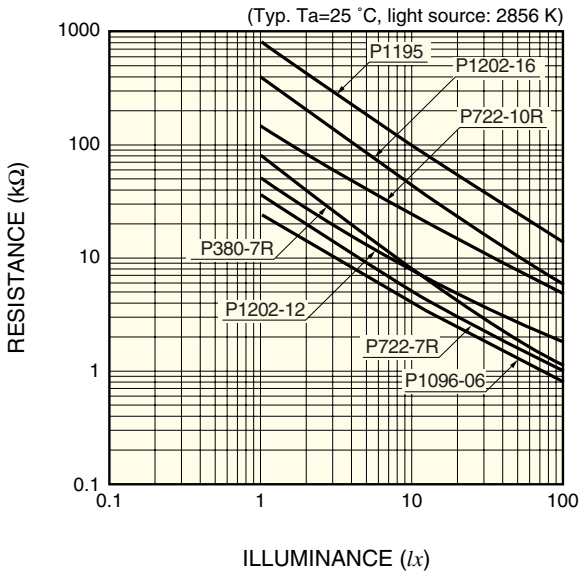
Type No.	Dimensional outline	Absolute maximum ratings			Characteristics *1						
		Supply voltage	Power dissipation P	Ambient temperature Ta	Peak sensitivity wavelength λp	Resistance *2			γ_{10}^{100} *4	Response time 10 lx *5	
						10 lx, 2856 K		0 lx *3		Rise time tr	Fall time tf
		(Vdc)	(mW)	(°C)	(nm)	Min. (kΩ)	Max. (kΩ)	Min. (MΩ)	100 to 10 lx	(ms)	(ms)
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

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

E_{100}, E_{10}: illuminance 100 lx, 10 lx
R_{100}, R_{10}: 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 %.

■ Resistance vs. illuminance



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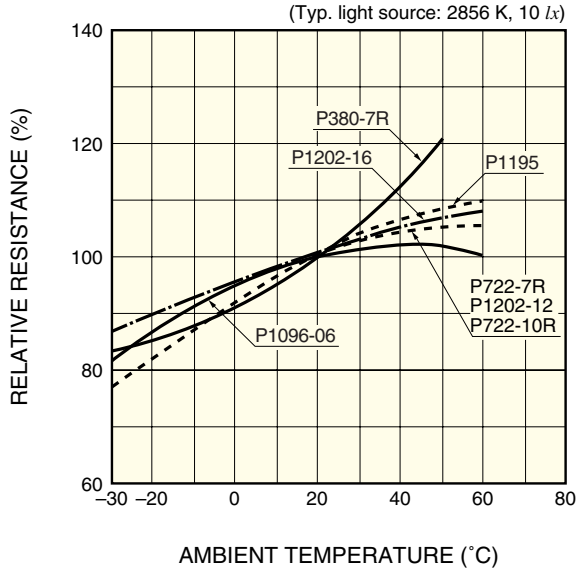
■ Resistance vs. ambient temperature



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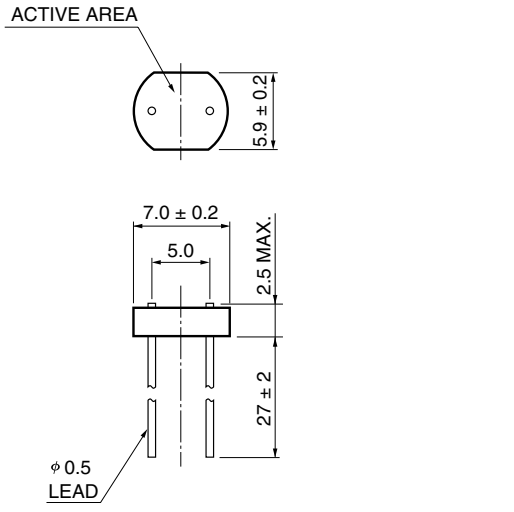
■ Dimensional outlines (unit: mm)

① 7R type



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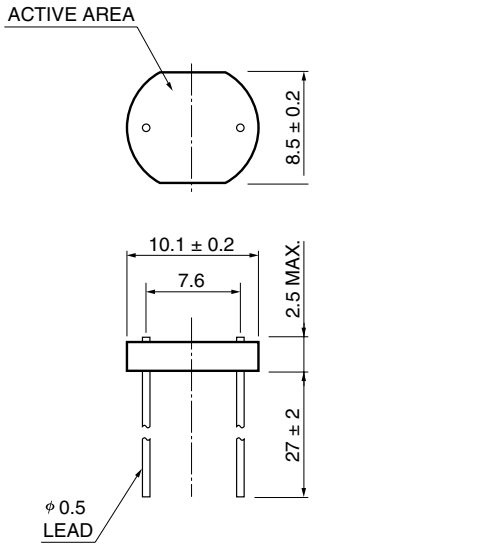
② 10R type



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