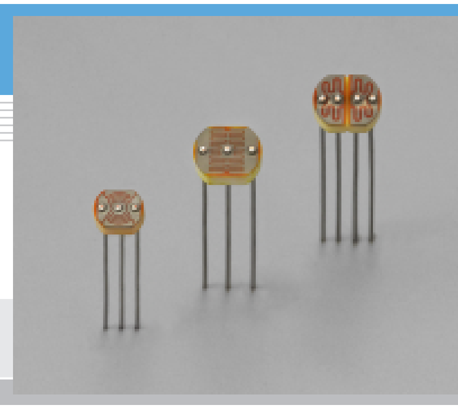
CdS photoconductive cell
Resin coating·dual type



Low cost dual-element sensor with standard size

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.
Dual-element sensors can be used to compare the signal from each element or perform signal processing by using a separation circuit.

Features

- Thin substrate
- Low price

Applications

- Sensor for various control device

■ Absolute maximum ratings / Characteristics (Typ. Ta=25 °C, unless otherwise noted, per 1 element)

Type No.	Dimensional outline	Absolute maximum ratings: Supply voltage (Vdc)	Power dissipation P (mW)	Ambient temperature Ta (°C)	Characteristics *1: Peak sensitivity wavelength λp (nm)	Resistance *2: 10 lx, 2856 K Min. (kΩ)	10 lx, 2856 K Max. (kΩ)	0 lx *3 Min. (MΩ)	γ_{10}^{100} *4 100 to 10 lx	Response time 10 lx *5: Rise time tr (ms)	Fall time tf (ms)
5R type											
P1395-01	①	50	25	-30 to +60	550	5	15	0.1	0.60	120	250
7R type											
P2405	②	100	50	-30 to +60	520	45	135	20	0.90	50	20
P2478-01	③				530	25	75	1	0.70		40

*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 shutting off the 10 lx light.
*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 (when fully illuminated). The fall time is the time required for the sensor resistance to decay from the saturated conductance level to 37 %.

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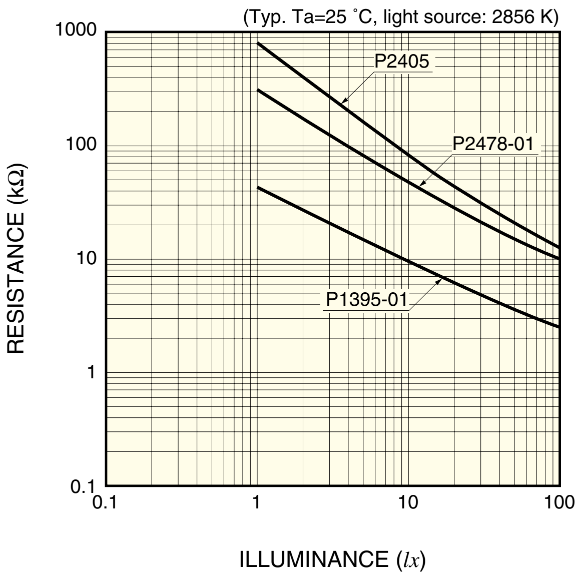
■ Resistance vs. illuminance



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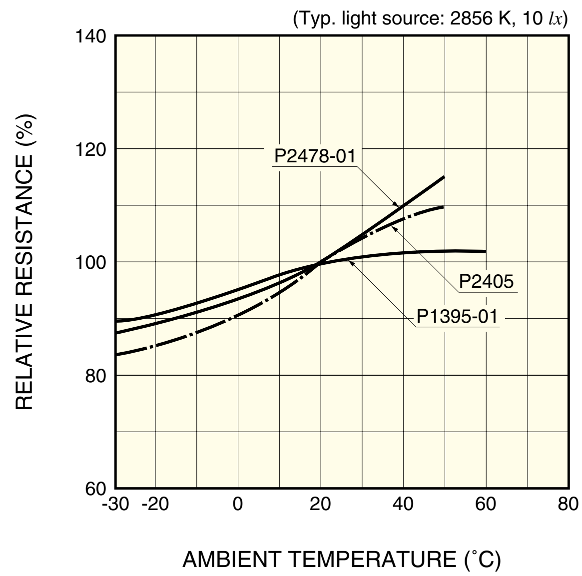
■ Resistance vs. ambient temperature



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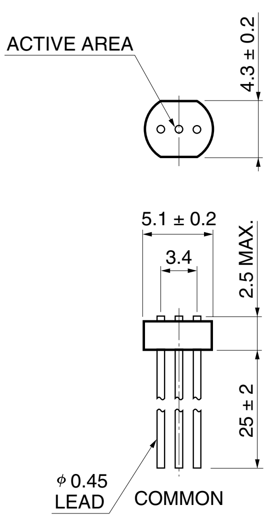
■ Dimensional outlines (unit: mm)

① P1395-01



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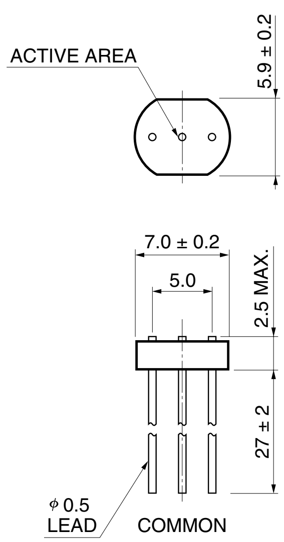
② P2405



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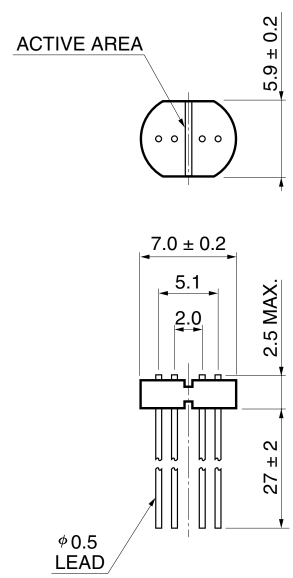
③ P2478-01



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