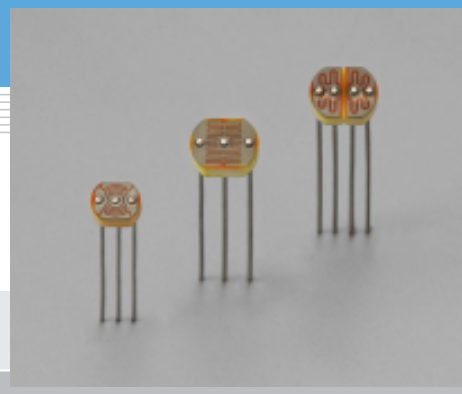


CdS photoconductive cell Resin coating · dual type

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			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
						Min. (kΩ)	Max. (kΩ)	Min. (MΩ)			
		(Vdc)	(mW)	(°C)	(nm)				100 to 10 lx	(ms)	(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

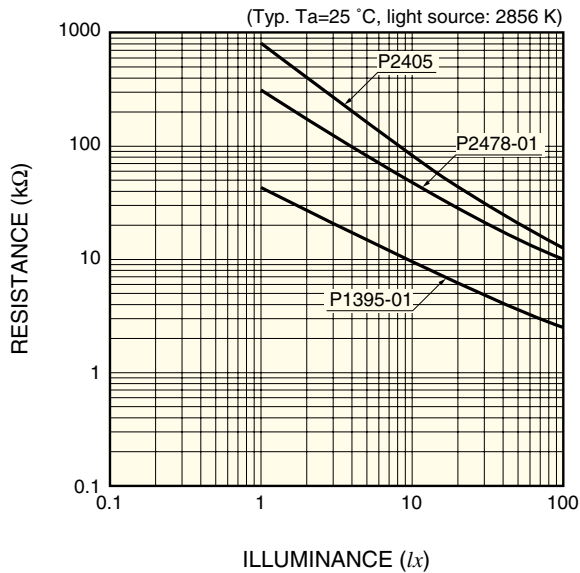
$$\gamma_{10}^{100} = \frac{|\log(R_{100}) - \log(R_{10})|}{|\log(E_{100}) - \log(E_{10})|}$$

E₁₀₀, E₁₀: illuminance 100 lx, 10 lx

R₁₀₀, R₁₀: resistance at 100 lx and 10 lx respectively

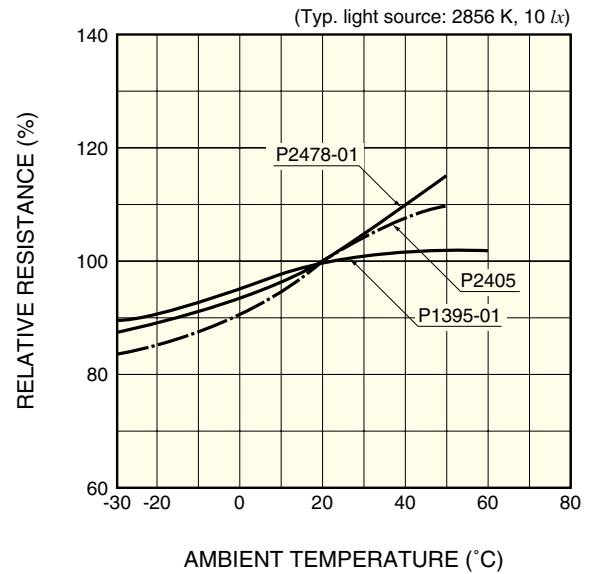
*5: The rise time is the time required for the sensor resistance to reach 63 % of the saturated conductance level (when fully illuminated). The fall time is the time required for the sensor resistance to decay from the saturated conductance level to 37 %.

■ Resistance vs. illuminance



KCDSB0020EA

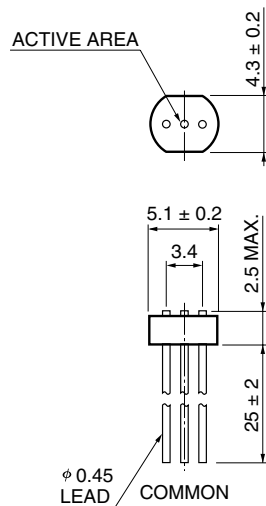
■ Resistance vs. ambient temperature



KCDSB0021EA

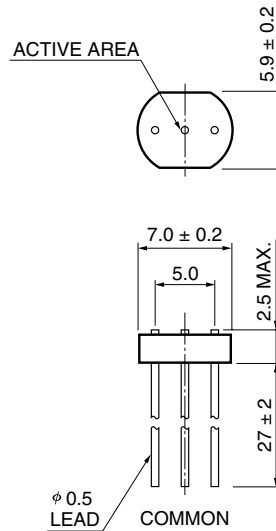
■ Dimensional outlines (unit: mm)

① P1395-01



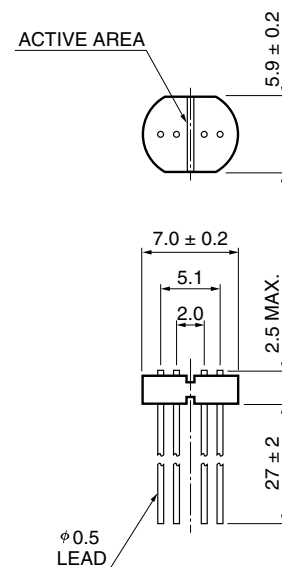
KCDSA0004EA

② P2405



KCDSA0005EA

③ P2478-01



KCDSA0006EA

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