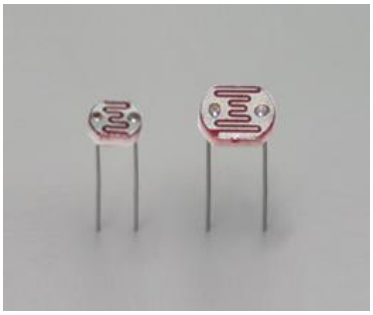
CdS Photoconductive cell **Resin Coating type(3R,4R type)**

VISIBLE DETECTOR



CdS photoconductive cell
Resin coating type (3R, 4R type)

■ Product Description

CdS photoconductive cell 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

·Epoxy encapsulated
·Quick Response
·Small Size
·High Sensitivity
·Reliable Performance
·Good Characteristic of Spectrum

■ Applications

- Auto Flash For Cameras
- photoelectric Control
- Auto dimmer for digital display, CTR and room illumination
- Industrial control
- Electronic Toys

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

Type NO.	Dimensional outline	Absolute maximum ratings			Characteristics *1						
		Supply Voltage (Vdc)	Power Dissipation P (mW)	Ambient temperature Ta (℃)	Spectral Peak 入 p (nm)	Resistance *2			γ_{10}^{100} *4 100~10lx	Response time(ms)	
						10Lux, 2856k		0 Lux*3		Rise tr	Fall tf
						Min. (KΩ)	Max. (KΩ)	Min. (MΩ)			
3R Type											
LXD3516	①	100	50	-30~+70	540	5	10	0.6	0.5	30	30
LXD3526						10	20	1	0.6		
LXD3537A						20	30	2			
LXD3537B						30	50	2	0.7		
LXD3548						45	140	3	0.8		
4R Type											
LXD4516	②	150	50	-30~+70	540	5	10	0.6	0.5	30	30
LXD4526						10	20	1	0.6		
LXD4537A						20	30	2			
LXD4537B						30	50	3	0.7		
LXD4848						45	140	5	0.8		

CdS Photoconductive cell **Resin Coating type(3R,4R type)**

VISIBLE DETECTOR

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

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

***3**:Measured 10 seconds after removal of light of 10lux

***4**:Typical gamma characteristics(within ±0.01 variations) between 100lux to 10lux.

$$\gamma = \frac{\text{Lon}(R10/R100)}{\text{Log}(100/10)} = \text{Log}(R10/R100)$$

Power Dissipation(Pmax)： Max power dissipation at ambient temperature of 25℃.

Supply Voltage（Vmax）：Max. Voltage in darkness that may be applied to the cell continuously.

■Illuminance-Resistance Characteristics Curve

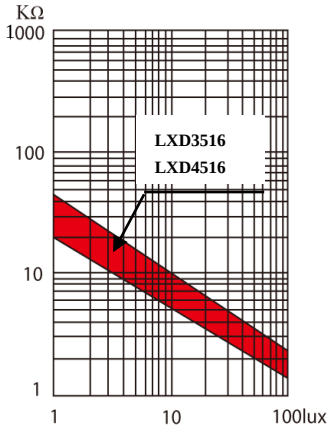


Fig. 1

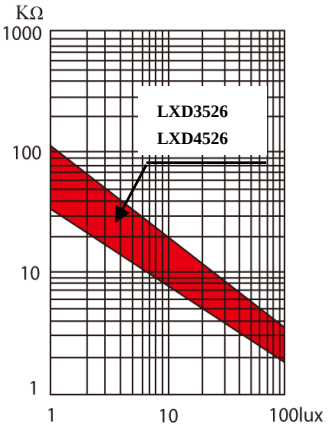


Fig. 2

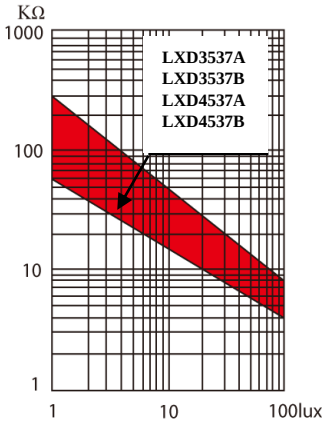


Fig. 3

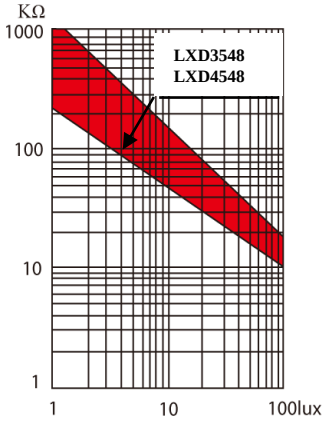
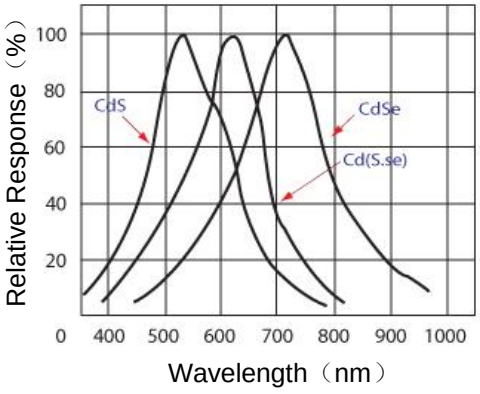
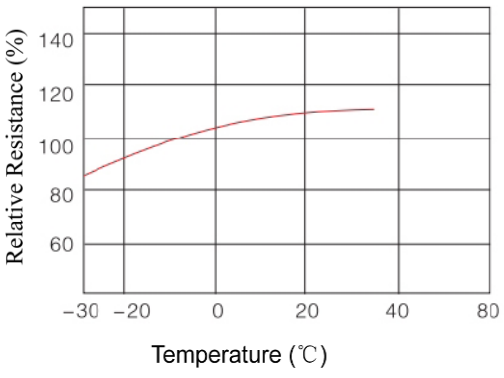


Fig.4

■ Spectral Response

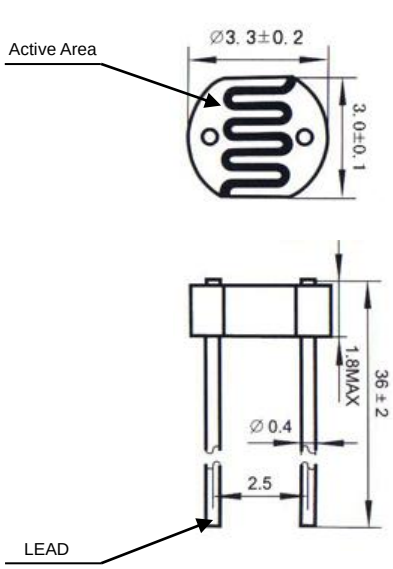


■ Temperature-Property



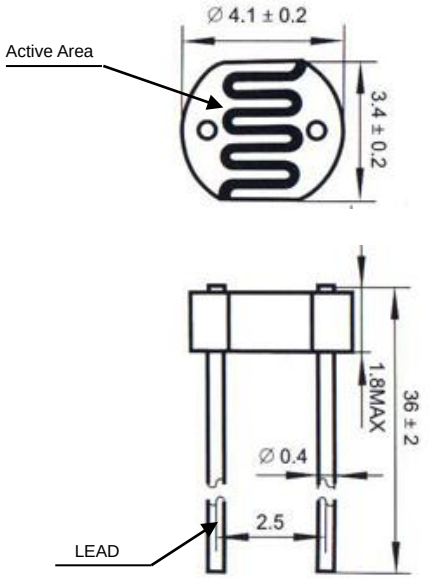
■ Dimensional outlines(unit:mm)

① **3R type**



LXDCDS3501OL

② **4R type**



LXDCDS45012L

■ Precaution for use

1) Usage precautions

●Even within the absolute maximum ratings, try to stay in the low region for power dissipation, applied voltage, and ambient temperature.(Since this allowable power dissipation applies to total illumination of the photosensitive surface, when only part of the photosensitive surface is used , the allowable power consumption should be reduced in proportion to the surface that is being used.)

●Use at high temperature and high humidity shortens the cell life, and should be avoided.

●Avoid usage that exposes the CdS photoconductive cell to strong ultraviolet light.

●For low-light detection (1lux or less for general CdS photoconductive cells),Characteristics are less stable.

●If the CdS photoconductive cell is subject to strong vibration or shock, reinforce the cell itself and its leads.

2) Handling precautions

●Since the window is made of glass and plastic coating, avoid touching it , pressing it , and causing friction with it with hard objects and hot objects. In particular, this can cause deterioration of the optical and ele-tri cal characteristics of plastic-coated CdS photoconductive cells. However, there is no problem with normal handling by hand.

●Since extreme bending or twisting of the lead at the root places stress on the lead root, avoid this . When forming the lead near the root, provide support for the lead root before bending the lead.

……↓

● Do not solder the leads with stress applied, do not pull, twist, or compress the leads right after they have been soldered. Allow them to cool befor changing the position or direction of the leads.

● When soldering, be careful about the soldering temperature and duration. In general, CdS photoconductive cells should be soldered at least 5mm down the lead from the cell package itself, with a solder iron no hotter than 260℃， for no longer than 5 seconds.

(Check the temperature of the tip of the soldering iron and use a soldering iron temperature controller if necessary.)

If these conditions cannot be observed, prevent the temperature rise form reaching the CdS photoconductive cell (by using heatsink) or increase the distance of the soldering from the CdS photoconductive cell itself.

● Avoid any chemicals that can corrode metal or cause deterioration of plastic. If there is a possibility of metal corrosion or deterioration of plastic, experiment only after confirming that it will not harm the CdS photoconductive cell.

● When washing or cleaning with solvents,use an alcohol solvent(isopropyl alcohol, ethyl alcohol, or a similar agent). Ultrasound wave cleaning with these solvents depends greatly on the usage conditions, but the cleaning time should be no longer than 30 minutes. Avoid chloro-hydrocarbon and ketone solvents. They can cloud and dissolve the plastic parts of the CdS photoconductive cell.

Main Products

CdS Photoconductive cell

Ambient light sensor

Visible light sensor IC (Photo IC)

Si photodiode

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