Position Sensitive Diodes

KODENSHI

# SD - 201 · SD - 202

The SD - 201, 202 are position sensors for automatic focusing of camera.

## FEATURES

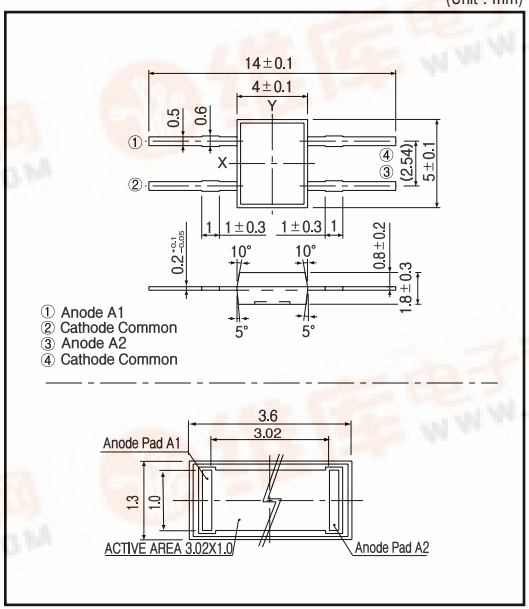
- Laser beam focusing/positioning is best performed.
- High performance.
- High reliability in demanding environments.

## APPLICATIONS

- Automatic focusing of camera

## DIMENSIONS

(Unit : mm)




## MAXIMUM RATINGS

(Ta=25℃)

| Item | Symbol | Rating | Unit |
|---|---|---|---|
| Reverse voltage | $V_R$ | 30 | V |
| Power dissipation | $P_D$ | 30 | mW |
| Operating temp. | Topr. | - 25~ +85 | ℃ |
| Storage temp. | Tstg. | - 30~ +100 | ℃ |

## ELECTRO-OPTICAL CHARACTERISTICS

(Ta=25℃)

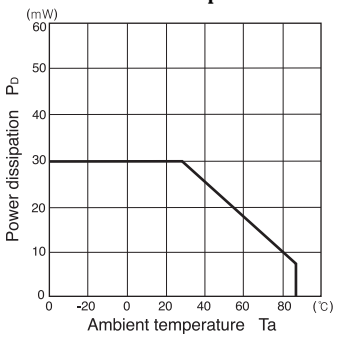
| Item | Symbol | Conditions | SD - 201 | | | SD - 202 | | | Unit. |
|---|---|---|---|---|---|---|---|---|---|
| | | | Min. | Typ. | Max. | Min. | Typ. | Max. | |
| Reverse voltage | $V_R$ | $I_R$=10μA | 30 | | | 30 | | | V |
| Dark current | Id | $V_R$=1V | | | 10 | | | 10 | nA |
| Light current | $I_L$ *1 | $V_R$=1V, Ev=1000lx *5 | 20 | 30 | | 13 | 16 | | μA |
| Spectral sensitivity | λ | | 400~1100 | | | 700~1100 | | | nm |
| Peak wavelength | λp | | | 940 | | | 940 | | nm |
| Switching speeds | tr, tf | $V_R$=1V, RL=1KΩ | | 2 | | | 2 | | μsec. |
| Capacitance | Ct | $V_R$=1V, f=1MHz | | 10 | | | 10 | | pF |
| Resistance | $R_S$ *2 | $V_R$=1V, Va=0.5V | 100 | 150 | 200 | 100 | 150 | 200 | KΩ |
| Signal slope | α *3 | $V_R$=1V | | 0.067 | | | 0.067 | | - |
| Light current difference | $\Delta I_L/I_L$ *4 | | | | ±2 | | | ±2 | % |

*1. $I_L = I_{L1} + I_{L2}$ ($I_{L1}$=Light current of A1,$I_{L2}$=Light current of A2)
*2. Va=Voltage of Anode A1,A2
*3. $\alpha = (I_{L1} - I_{L2}) / (I_{L1} + I_{L2})$
*4. $\Delta I_L = I_{L1} - I_{L2}$
*5. Color temp.=2856K standard Tungsten lamp

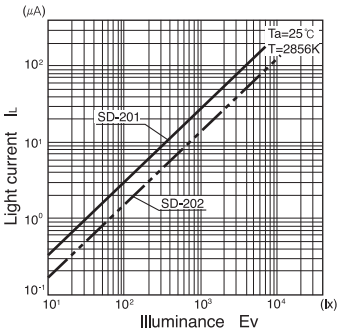
Position Sensitive Diode

# SD - 201 · SD - 202

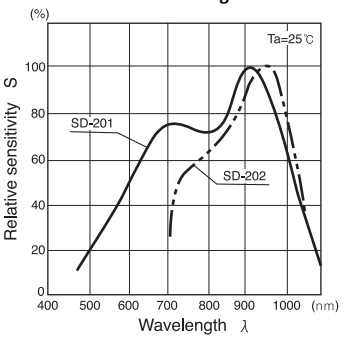
**Power dissipation Vs. Ambient temperature**



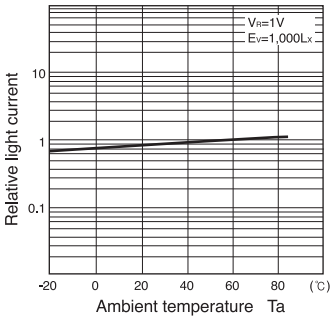

**Light current Vs. Illuminance**



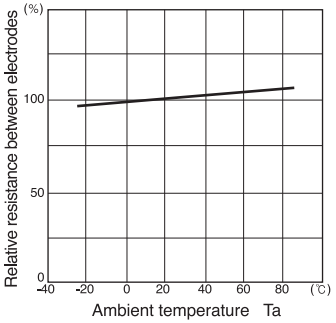

**Relative sensitivity Vs. Wavelength**



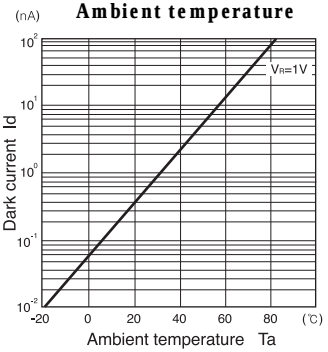

**Relative light current Vs. Ambient temperature**



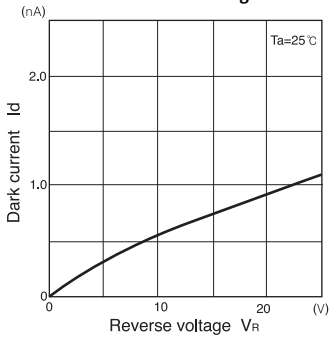

**Relative resistance between electrodes Vs. Ambient temperature**



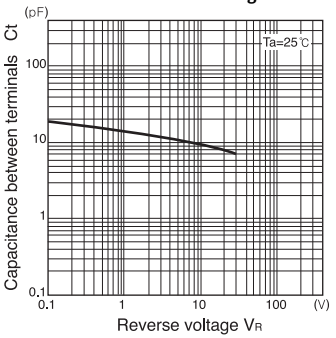

**Dark current Vs. Ambient temperature**




**Dark current Vs. Reverse voltage**




**Capacitance between terminals Vs. Reverse voltage**




**Relative light current Vs. Position**