

SD - 303 · SD - 306

The SD - 303, 306 are position sensors for automatic focusing of camera.

FEATURES

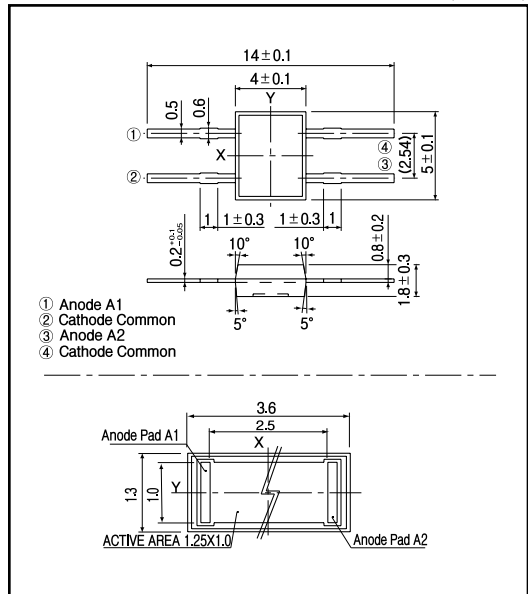
- Laser beam focusing/positioning is best performed
- High performance
- High reliability in demanding environments

APPLICATIONS

- Automatic focusing of camera

DIMENSIONS

(Unit : mm)

**MAXIMUM RATINGS**

(Ta=25 °C)

| Item | Symbol | Rating | Unit |
|-------------------|------------|--------------|------|
| Reverse voltage | V_R | 30 | V |
| Power dissipation | P_D | 30 | mW |
| Operating temp. | $T_{opr.}$ | - 25 ~ + 85 | |
| Storage temp. | $T_{stg.}$ | - 30 ~ + 100 | |

ELECTRO-OPTICAL CHARACTERISTICS

(Ta=25 °C)

| Item | Symbol | Conditions | SD - 303 | | | SD - 306 | | | Unit. |
|--------------------------|------------------------------------|--------------------------|----------|------|------|----------|------|------|------------|
| | | | Min. | Typ. | Max. | Min. | Typ. | Max. | |
| Reverse voltage | V_R | $I_R = 10 \mu A$ | 30 | | | 30 | | | V |
| Dark current | I_d | $V_R = 1V$ | | 0.2 | 5 | | 0.2 | 5 | nA |
| Light current | I_L^{*1} | $V_R = 1V, E = 1000lx^5$ | 10 | 13 | | 10 | 13 | | μA |
| Spectral sensitivity | | | 720~1100 | | | 720~1100 | | | nm |
| Peak wavelength | λ_p | | 940 | | | 940 | | | nm |
| Switching speeds | t_r, t_f | $V_R = 1V, R_L = 1k$ | 2 | | | 2 | | | $\mu sec.$ |
| Capacitance | C_t | $V_R = 1V, f = 1MHz$ | 10 | | | 14 | | | pF |
| Resistance | R_s^{*2} | $V_R = 1V, V_a = 0.5V$ | 230 | 280 | 350 | 100 | 140 | 190 | K |
| Signal slope | $\frac{dI}{dL}^{*3}$ | $V_R = 1V$ | 0.08 | | | 0.08 | | | - |
| Light current difference | $\frac{I_1 - I_2}{I_1 + I_2}^{*4}$ | | ± 2 | | | ± 2 | | | % |

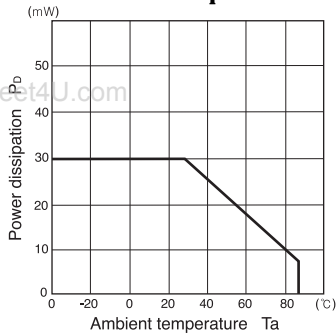
*1. $I_L = I_1 + I_2$ (I_1 = Light current of A1, I_2 = Light current of A2)*2. V_a = Voltage of Anode A1, A2*3. $\frac{dI}{dL} = \frac{I_1 - I_2}{(I_1 + I_2)}$ *4. $L = L_1 + L_2$

*5. Color temp. = 2856K standard Tungsten lamp

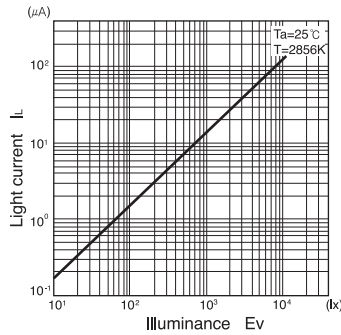
Position Sensitive Diode

SD - 303 · SD - 306

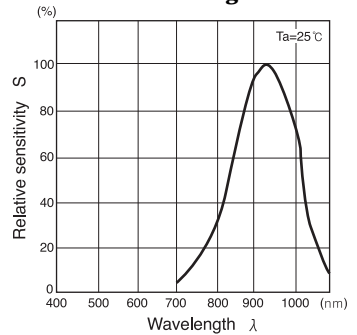
Power dissipation Vs. Ambient temperature



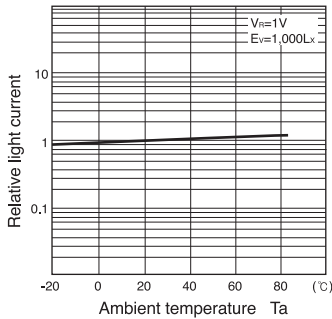
Light current Vs. Illuminance



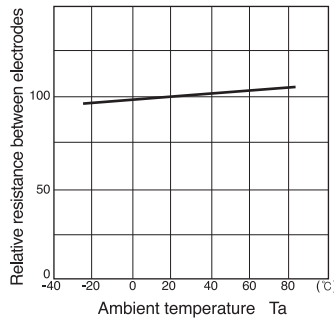
Relative sensitivity Vs. Wavelength



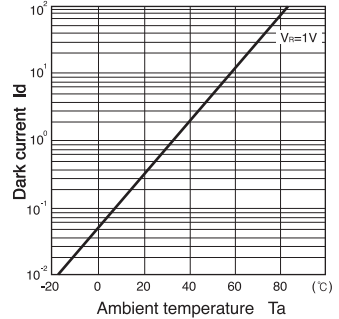
Relative light current Vs. Ambient temperature



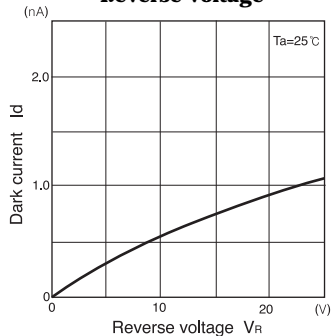
Relative resistance between electrodes Vs. Ambient temperature



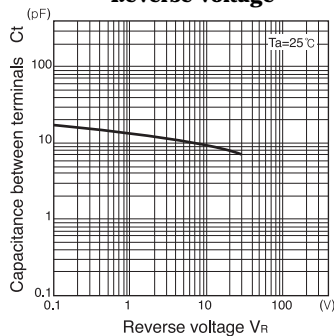
Dark current Vs. Ambient temperature



Dark current Vs. Reverse voltage



Capacitance between terminals Vs. Reverse voltage



Relative light current Vs. Position

