

# SD - 506F

The SD - 506F is position sensors for automatic focusing of camera.

## FEATURES

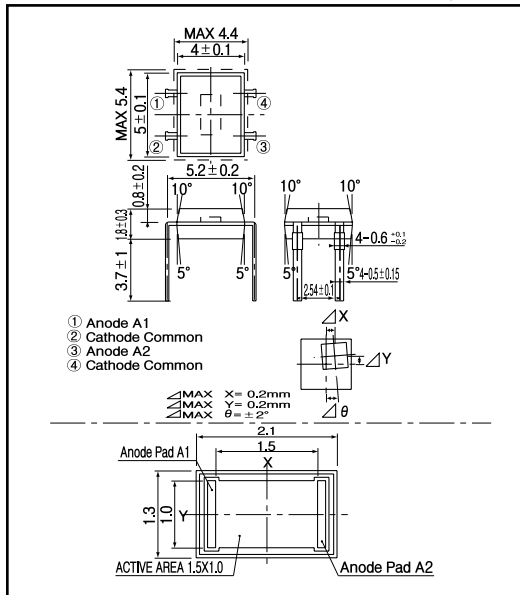
- Visible ray cut off flat package.
- Laser beam focusing/positioning is best performed.
- Lead forming type.

## APPLICATIONS

- Automatic focusing of camera

## DIMENSIONS

(Unit : mm)



## MAXIMUM RATINGS

( $T_a = 25^\circ$ )

| Item              | Symbol     | Rating     | Unit |
|-------------------|------------|------------|------|
| Reverse voltage   | $V_R$      | 15         | V    |
| Power dissipation | $P_D$      | 30         | mW   |
| Operating temp.   | $T_{opr.}$ | - 25 + 85  |      |
| Storage temp.     | $T_{stg.}$ | - 30 + 100 |      |
| Soldering temp.*1 | $T_{sol.}$ | 260        |      |

\*1. For MAX. 5 seconds at the position of 2mm from the package

## ELECTRO-OPTICAL CHARACTERISTICS

( $T_a = 25^\circ$ )

| Item                                   | Symbol      | Conditions               | Min. | Typ.     | Max.    | Unit.      |
|--|-------------|--------------------------|------|----------|---------|------------|
| Collector dark current                 | $I_d$       | $V_R = 1V$               |      | 0.2      | 5       | nA         |
| Light current <sup>*2</sup>            | $I_L$       | $V_R = 1V, E = 1000lx^3$ | 6    | 8        |         | $\mu A$    |
| Spectral sensitivity                   |             |                          |      | 720 1100 |         | nm         |
| Peak wavelength                        | $\lambda_p$ |                          |      | 940      |         | nm         |
| Switching speeds                       | $t_r, t_f$  | $V_R = 1V, R_L = 1K$     |      | 2        |         | $\mu sec.$ |
| Capacitance                            | $C_t$       | $V_R = 1V, f = 1MHz$     |      | 5        |         | pF         |
| Resistance <sup>*4</sup>               | $R_s$       | $V_R = 1V, V_a = 0.5V$   | 260  | 330      | 400     | K          |
| Signal slope <sup>*5</sup>             |             | $V_R = 1V$               |      | 0.134    |         |            |
| Light current difference <sup>*6</sup> | $I_1/I_2$   |                          |      |          | $\pm 2$ | %          |

\*2.  $I_1 = I_1 + I_2$  ( $I_1 =$ Light current of A1,  $I_2 =$ Light current of A2)

\*3. Color temp. = 2856K standard Tungsten lamp

\*4.  $V_a =$  Voltage of Anode A1, A2

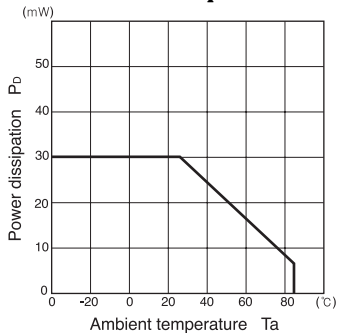
\*5.  $= 1(I_1 - I_2) / (I_1 + I_2) \times 100$

\*6.  $L = I_1 - I_2$

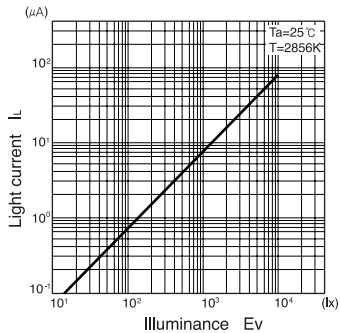
**Position Sensitive Diode**

**SD - 506F**

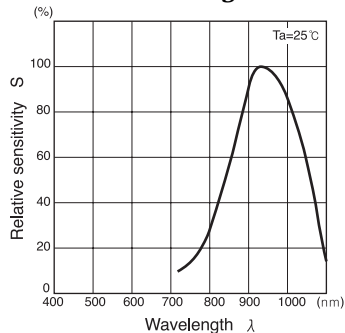
**Power dissipation Vs. Ambient temperature**



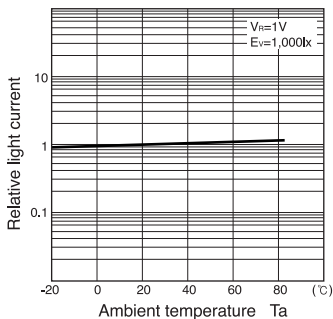
**Light current Vs. Illuminance**



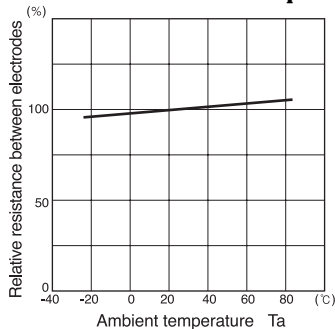
**Relative sensitivity Vs. Wavelength**



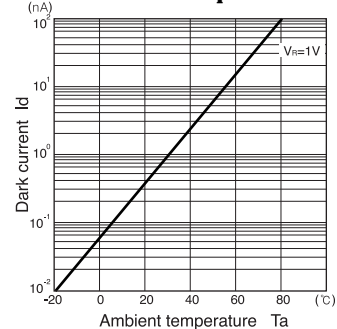
**Relative light current Vs. Ambient temperature**



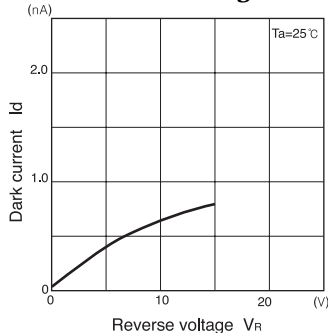
**Relative resistance between electrodes Vs. Ambient temperature**



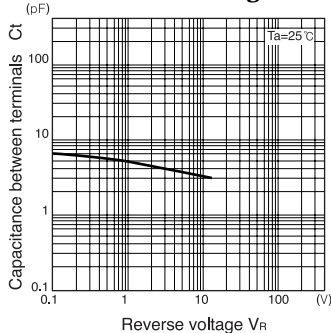
**Dark current Vs. Ambient temperature**



**Dark current Vs. Reverse voltage**



**Capacitance between terminals Vs. Reverse voltage**



**Relative light current Vs. Position**

