

SD - 303 · SD - 306

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

FEATURES

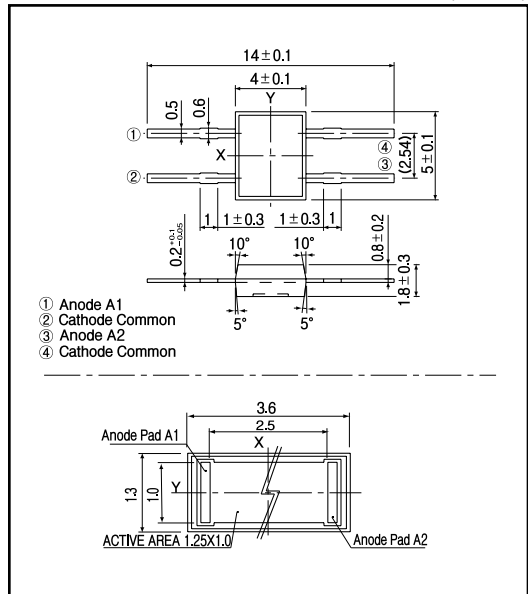
- Laser beam focusing/positioning is best performed
- High performance
- High reliability in demanding environments

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	λ		720~1100			720~1100			nm
Peak wavelength	λ_p		940			940			nm
Switching speeds	t_r, t_f	$V_R = 1V, R_L = 1k\Omega$	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 Ω
Signal slope	α^{*3}	$V_R = 1V$	0.08			0.08			-
Light current difference	$\Delta I_L / I_L^{*4}$		± 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. $\alpha = 1(I_1 - I_2) / (I_1 + I_2)$

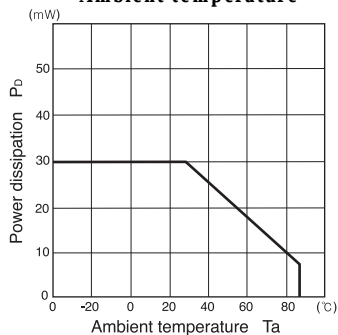
*4. $\Delta I_L = I_1 - I_2$

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

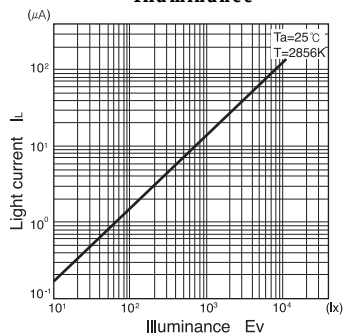
Position Sensitive Diode

SD - 303 · SD - 306

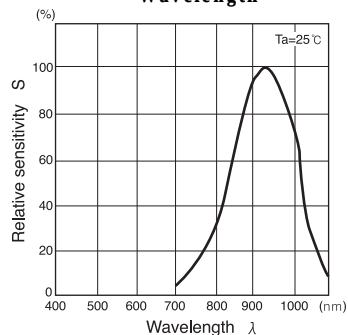
**Power dissipation Vs.
Ambient temperature**



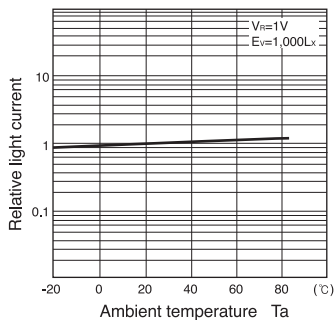
**Light current Vs.
Illuminance**



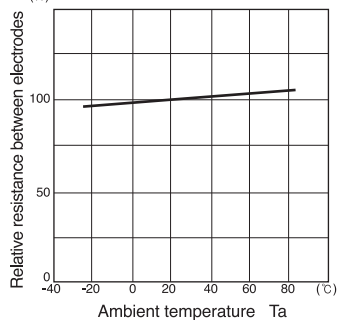
**Relative sensitivity Vs.
Wavelength**



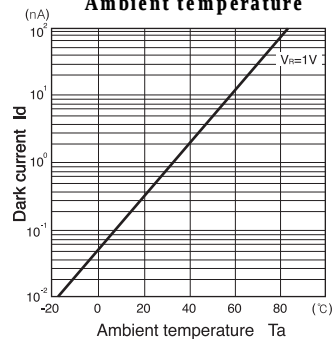
**Relative light current Vs.
Ambient temperature**



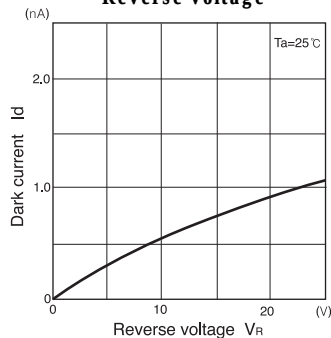
**Relative resistance between
electrodes Vs. Ambient temperature**



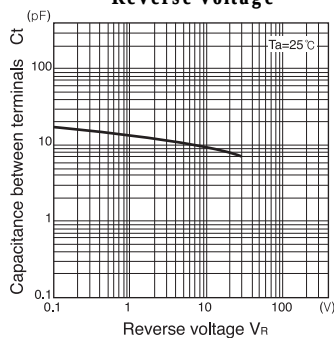
**Dark current Vs.
Ambient temperature**



**Dark current Vs.
Reverse voltage**



**Capacitance between terminals Vs.
Reverse voltage**



**Relative light current Vs.
Position**

