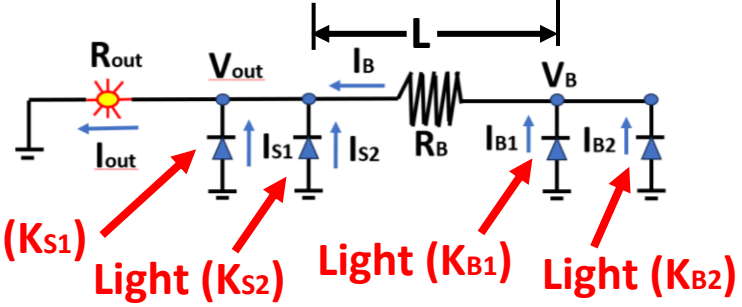
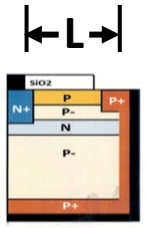
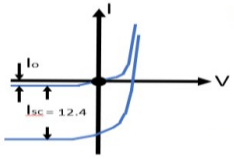
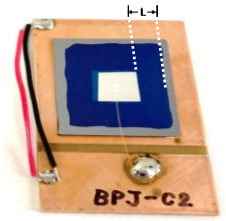
(3)







L = 10 mm :



Chip Size 3 cm x 3 cm

手描き

$$I_{SC3} = I_{S1} + I_{S2} = 12.4 \text{ mA}$$

(3.1) $I_{out} = I_{S1} + I_{S2} + I_B$; $I_B = I_{B1} + I_{B2}$; $K_B = K_{B1} + K_{B2}$;

(3.2) $I_{S1} = (A_S)\,(J_{S1}) = (A_S)\,(K_{S1})\{\exp(-V_{out}/kT) - 1\}$;

(3.3) $I_{S2} = (A_S)\,(J_{S2}) = (A_S)\,(K_{S2})\{\exp(-V_{out}/kT) - 1\}$;

(3.4) $I_B = (A_B)\,(J_B) = (A_B)\,(K_B)\{\exp(-V_B/kT) - 1\}$;

(3.5) $(V_{out} - V_B) = (I_B)\,(R_B)$;

(3.6) $A_B >> A_S$;

(3.7) $R_B >> R_{out} = (V_{out}) / (I_{out}) \rightarrow I_B << (I_{S1} + I_{S2})$;

$$I_{SC3} / I_{SC2} = 1.48$$

	I_0 [A]	n	Rs [Ω]	Rp [Ω]	V_{OC} [V]	I_{SC} [mA]	η [%]	S [cm^2]
(1) Single				160	0.60	103	8.0	4.3
(2) Single B	2.4×10^{-10}	1.04	2.00	14.4M	0.46	8.4	0.29	9
(3) Double			2.37	15.2k	0.46	12.4	0.32	9