Compensated semiconductor's

electrons p coneutral electrons no. Thermal Total Ec. Nd = (Na-nd) Ionized donars. un-conized donars Un-ionized, $N_a = (N_a - P_a)$ + Acceptor Po noly 4 Total concertration

For charge neutrality

$$n_0 + N_a = P_0 + N_a + \frac{1}{2}$$

no + (Na-Pa) = Po + (Nd-nd).

For complete conization, nd A Pa de 300.

= not Na = Pot Nd.

Of moro = n_i^2 = D $Po = \frac{n_i^2}{n_i^2}$

$$\frac{1}{n_0} + n_0 = \frac{n_1^2}{n_0} + n_d.$$

=
$$n_0^2 - (N_d - N_a) n_0 - n_1^2 = 0$$
.

$$= \sqrt{\frac{N_d - N_a}{2} + \sqrt{\frac{N_d - N_a}{2}^2 + n_i^2}}$$