

Physics and Technology of Semiconductor Devices

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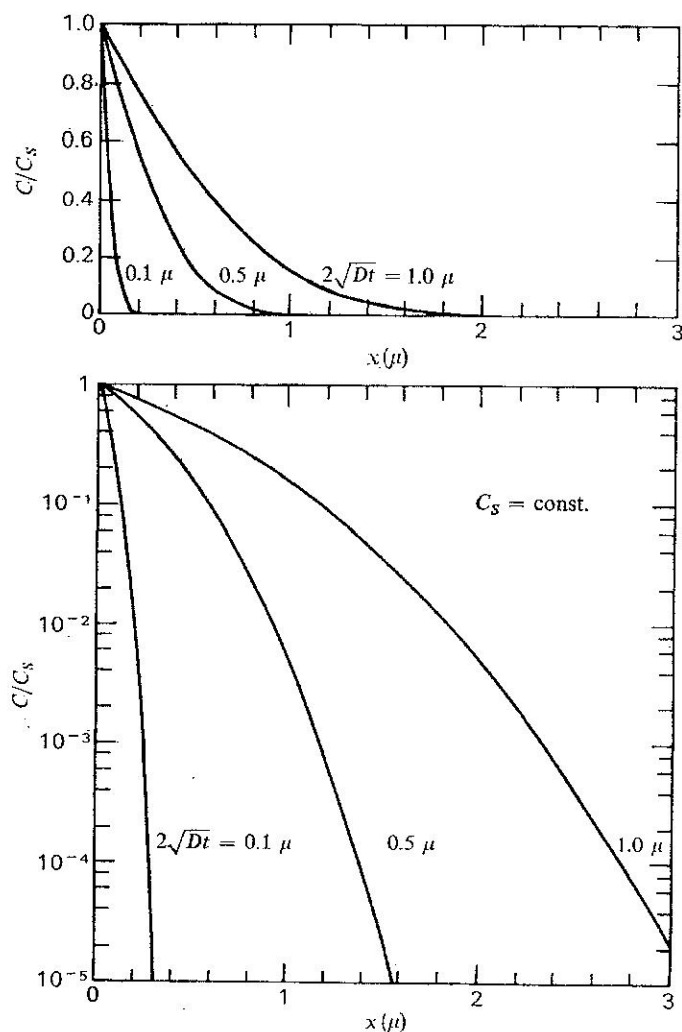


Fig. 3.9 The complementary error function (erfc): normalized concentration versus distance for successive times.

the total number of impurity atoms in a 1-cm^2 section of the semiconductor, defined by

$$Q(t) \equiv \int_0^{\infty} C(x, t) dx. \quad (3.14)$$

Integration of Equation 3.13 yields

$$Q(t) = \frac{2}{\sqrt{\pi}} \sqrt{Dt} C_s. \quad (3.15)$$