$$l_t = \sqrt{\varepsilon_{si} X_{dep} / C_{ox}}(1 + D_{VT2} V_{bseff})$$

$$l_{tw} = \sqrt{\varepsilon_{si} X_{dep} / C_{ox}}(1 + D_{VT2w} V_{bseff})$$

$$l_{to} = \sqrt{\varepsilon_{si} X_{dep0} / C_{ox}}$$

$$X_{dep} = \sqrt{\frac{2\varepsilon_{si}(\Phi_s - V_{bseff})}{qN_{ch}}}$$

$$X_{dep0} = \sqrt{\frac{2\varepsilon_{si}\Phi_s}{qN_{ch}}}$$

($\delta 1$=0.001)

$$V_{bseff} = V_{bc} + 0.5[V_{bs} - V_{bc} - \delta_1 + \sqrt{(V_{bs} - V_{bc} - \delta_1)^2 - 4\delta_1 V_{bc}}\ ]$$

$$V_{bc} = 0.9\left(\Phi_s - \frac{K_1^{\ 2}}{4K_2^{\ 2}}\right)$$

$$V_{bi} = \nu_t \ln(\frac{N_{ch} N_{DS}}{n_i^{\ 2}})$$

B.1.2 Effective (V_{gs}-V_{th})

$$V_{gsteff} = \frac{2\, n\, \nu_t \ln\left[1 + \exp(\frac{V_{gs} - V_{th}}{2\, n\, \nu_t})\right]}{1 + 2\, n\ \ C_{OX}\sqrt{\frac{2\Phi_s}{q\varepsilon_{si} N_{ch}}}\exp(-\frac{V_{gs} - V_{th\,-}\, 2V_{off}}{2\, n\, \nu_t})}$$