(mobMod = 1) (3.2.1)

$$\mu_{eff} = \frac{\mu_o}{1 + (U_a + U_c V_{bseff})(\frac{V_{gsteff} + 2V_{th}}{T_{OX}}) + U_b(\frac{V_{gsteff} + 2V_{th}}{T_{OX}})^2}$$

To account for depletion mode devices, another mobility model option is given by the following

(mobMod = 2) (3.2.2)

$$\mu_{eff} = \frac{\mu_o}{1 + (U_a + U_c V_{bseff})(\frac{V_{gsteff}}{T_{OX}}) + U_b(\frac{V_{gsteff}}{T_{OX}})^2}$$

To consider the body bias dependence of Eq. 3.2.1 further, we have introduced the following expression

(For mobMod = 3) (3.2.3)

$$\mu_{eff} = \frac{\mu_o}{1 + [U_a(\frac{V_{gsteff} + 2V_{th}}{T_{OX}}) + U_b(\frac{V_{gsteff} + 2V_{th}}{T_{OX}})^2](1 + U_c V_{bseff})}$$

3.3 Unified Linear Current Expression

3.3.1 Intrinsic case (R_{ds}=0)

Generally, the following expression [2] is used to account for both drift and diffusion current