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| **Title:** | Carrier Diffusion Time Delay Model of Pocket Implanted Nano Scale n-MOSFET | | |
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| **Abstract:** |  |
| Abstract— This paper presents an analytical model for the calculations of carrier diffusion time delay in pocket implanted nano scale n-MOSFET. The model is developed using the mobility model of the pocket implanted n-MOSFET developed previously. The developed model utilizes the linear pocket profile to derive the effective electric field that affects the mobility in the channel. The model has been studied using simulations for the various device and pocket profile parameters. The model will be useful to study the behaviour of the nano scaled pocket implanted n-MOSFET for high frequency operation. | |