

**EFFECT OF OXIDE TYPE AND THICKNESS TOWARDS NMOS I-V  
CHARACTERISTICS**

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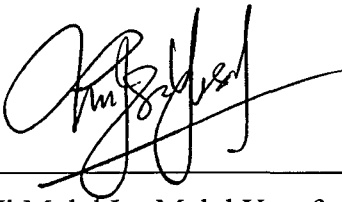
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The Final Year Project Report entitled “Effect of Oxide Type and Thickness towards NMOS I-V Characteristics” was submitted by Farah Adibah binti Ali, in partial fulfillment of the requirements for the Bachelor of Science (Hons.) Industrial Physics, in the Faculty of Applied Sciences, and was approved by



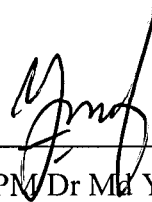
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## ABSTRACT

Silicon dioxide ( $\text{SiO}_2$ ) is the gate component on N-type Metal Oxide Semiconductor (NMOS) which play a very important role in the transistor operation. Growing  $\text{SiO}_2$  on the wafer substrate can be done by two methods which are by dry and wet oxidation. These two methods have different characteristics. Hence this study is to investigate the effect of oxide type and thickness towards NMOS I-V characteristics and also to come out with the method on fabricating NMOS. Upon fabricating NMOS, the  $\text{SiO}_2$  thickness is varied for each different type of oxidation process. Then the NMOS is tested with respect to its current-voltage relationship. This study has found out that wet oxidation has higher growth rate as compared to dry oxidation while dry oxidation produce a better film quality. The fabrication of NMOS has succeeded in which the structure of NMOS is obtained. But analysis on the current-voltage characteristics cannot be done since the device shows violation towards ideal characteristics. The gate component fails to exhibit as a dielectric. This might due to some limitations and inaccuracy while fabrication.