NEW DIMENSION IN LEAKAGE CURRENT

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ABSTRACT

The leakage current flows at reverse biased condition. According to the present concept the transistor leakage current is directly proportional to the junction temperature. But the experiment designed in this study reviles that amount of leakage current decreases with the increase of temperature from 30^0C to 125^0C. At 125^0C - 130^0C the leakage current is minimal. Above 125^0C the leakage current increases with the increase of temperature and follow the proportionality law. Initially leakage current follows exponential decrement and then above 125^0C it follows linear increment. The reason behind this anomaly is the improper distribution of the supplied heat energy among the carriers. But Above the threshold temperature more electron-hole pair generated and there by the supplied energy will be distributed properly among the previously present electron-hole pair and the newly generated one due to the supplied heat.

KEYWORDS: Transistor, Leakage Current, Temperature, Proportionality Law