


Turkish Journal of Physics

Turkish Journal
of
Physics

Exact Analytical Solution of the Diode Ideality Factor of a pn Junction Device Using Lambert W-function Model

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 [Keywords](#)
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Abstract: The paper presents a new analytical method for extracting the diode ideality factor of a p-n junction device using Lambert W-function model and the dark current-voltage data. The extracted values are found to be in good agreement with those calculated experimentally from dark current-voltage characteristics.

Key Words: Ideality factor; Lambert W-function; Solar cell.



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Turk. J. Phys., **31**, (2007), 7-10.

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