Abstract

Propagation Delay of CMOS circuit depends upon several parameters such as threshold voltage, supply voltage, cell size. Variation of threshold voltage may result in temperature inversion effect thus reducing the cell delay as temperature increases. Integrated circuits operating at scaled supply voltage consume low power at the cost of reduced speed. This paper
presents the study of effect of temperature on propagation delay of LECTOR based NAND gate circuit and comparing that with conventional design for a temperature range of 25oC to 105oC.

Reference

- A. Dasdan and I. Hom. Handling inverted temperature dependence in static timing analysis. ACM Trans. on Design
Temperature Dependence of Propagation Delay Characteristic in LECTOR Based CMOS Circuit


Index Terms

Computer Science                  Information
Technology

Key words

Leakage/Sub threshold current
threshold voltage

LECTOR circuit