

Abstract

Variations occur inevitably in temperature sensor from process variations. To tackle the former variations, a relative temperature sensor is proposed and explored in this thesis. It eliminates the process variations in temperature measurement and improves area efficiency. Without external calibration, the new temperature sensor is able to provide accurate temperature information. Simulations using the proposed approach show 147 times improvement in minimum error cases, 11 times improvement in maximum error cases and 74% area reduction in area of sensors.

