

[AN60590 - Temperature Measurement Using Diode](#) (468 KB)

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src: [AN60590.zip](#) (935 KB)

Application Note Abstract

This application note explains temperature measurement using the diode forward bias current dependence on temperature. A diode connected transistor is used for temperature measurement.

Introduction

There are various sensors available for measuring temperature like thermistor, thermocouple, RTD"s etc. Choosing which sensor or method to employ for measuring temperature depends on a lot of factors like accuracy requirement, temperature range to be measured, and cost of temperature sensor. The diode forward bias current dependence on temperature makes it an easy, accurate and also relatively low cost method for measuring temperature. With on-chip current-DAC"s and a 20 bit Delta Sigma ADC, PSoC® 3 and PSoC® 5 enables simple and accurate temperature measurement using just an external diode.