

Thermistor Calculator Code Example

Objective

This example project demonstrates the usage of the Thermistor Calculator component for measuring temperature using CY8CKIT-025 - PSoC Precision Analog Temperature Sensor Expansion Board Kit.

This project consists of the Thermistor Calculator, Character LCD, Opamp, Vref, AMux, and ADC_DelSig components. Opamp and Vref components are used for the Thermistor interface circuit. AMux and ADC_DelSig components are used for measuring voltage across the thermistor and reference resistor. The Thermistor Calculator component is used for temperature calculation. The Character LCD component is used for displaying current temperature.

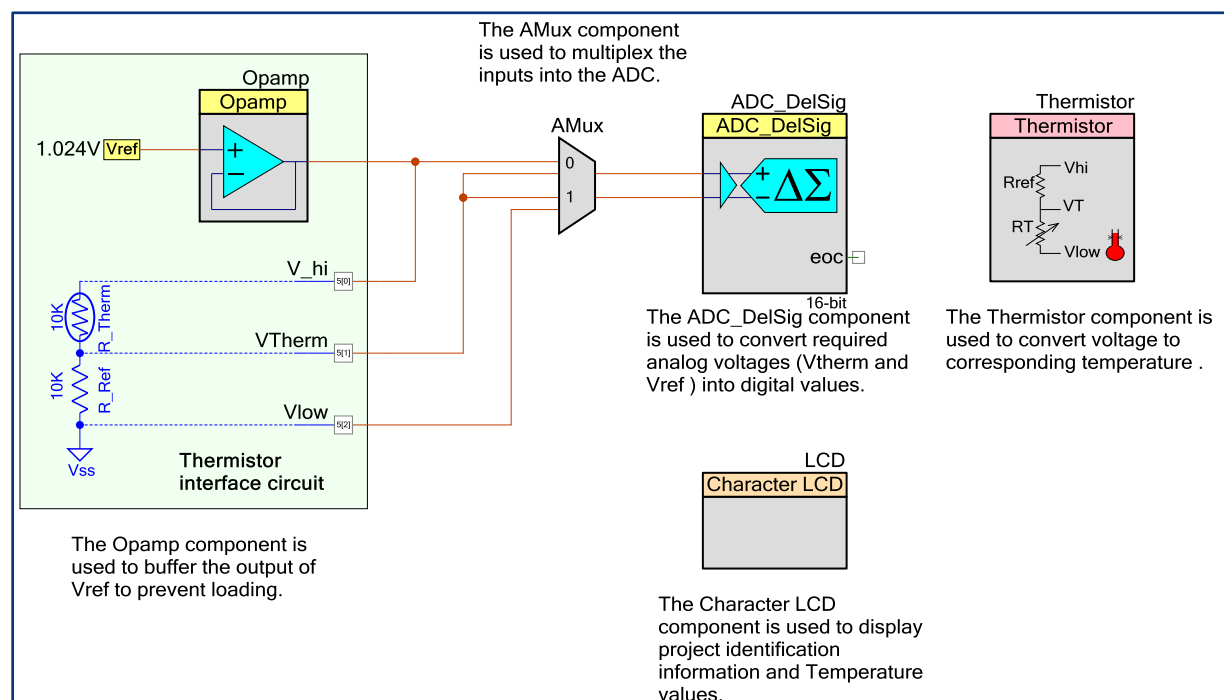
A CY8CKIT-001 development kit and CY8CKIT-025 expansion board are required for this project.

See the schematic for more information.

Procedure

1. Connect the CY8CKIT-025 Precision Analog Temperature Sensor expansion board to Port A of CY8CKIT-001 PSoC DVK. The CY8CKIT-030 or CY8CKIT-050 may be used in place of the -001 DVK, but jumper settings may vary.
2. Insert jumper on CY8CKIT-025 at J5 2 and 3 for internal thermistor usage.
3. Build the project and program the hex file to the target device.
4. Power on CY8CKIT-001 PSoC DVK.
5. Observe temperature on LCD.

Schematic



PSoC Resources

Cypress provides a wealth of data at www.cypress.com to help you to select the right PSoC device for your design, and quickly and effectively integrate the device into your design. For a comprehensive list of resources, see [KBA86521](#), [How to Design with PSoC 3, PSoC 4, and PSoC 5LP](#). The following is an abbreviated list for PSoC:

- **Overview:** [PSoC Portfolio](#), [PSoC Roadmap](#)
- **Product Selectors:** [PSoC 1](#), [PSoC 3](#), [PSoC 4](#), or [PSoC 5LP](#). In addition, [PSoC Creator](#) includes a device selection tool.
- **Datasheets:** Describe and provide electrical specifications for the PSoC 3, PSoC 4, and PSoC 5LP device families.
- **CapSense Design Guides:** Learn how to design capacitive touch-sensing applications with the PSoC 3, PSoC 4, and PSoC 5LP families of devices.
- **Application Notes** and **Code Examples:** Cover a broad range of topics, from basic to advanced level. Many of the application notes include code examples.
- **Technical Reference Manuals (TRM):** Provide detailed descriptions of the architecture and registers in each of the PSoC 3, PSoC 4, and PSoC 5LP device families.
- **PSoC Training Videos:** These videos provide step-by-step instructions on getting started building complex designs with PSoC.
- **Development Kits:**
 - [CY8CKIT-042](#) and [CY8CKIT-040](#), PSoC 4 Pioneer kits, are easy-to-use and inexpensive development platforms. These kits include connectors for Arduino™ compatible shields and Digilent® Pmod™ daughter cards.
 - [CY8CKIT-049](#) is a series of very low-cost prototyping platform for sampling PSoC 4 devices.
 - [CY8CKIT-030](#) and [CY8CKIT-050](#) are designed for analog performance. They enable you to evaluate, develop, and prototype high-precision analog, low-power, and low-voltage applications powered by PSoC 3 and PSoC 5LP, respectively.
 - [CY8CKIT-001](#) is a common development platform for all PSoC family devices.
- The [MiniProg3](#) device provides an interface for flash programming and debug.

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