

ADC SAR Sequencer Code Example

Objective

This project demonstrates the use of the PSoC 5LP ADC SAR Sequencer component.

Four VDACS are used as input voltage sources for the component. Initial settings for channels (from 1 to 4) are: 0.2, 0.4, 0.6, 0.8 Volts. Actual converted initial voltages are displayed on the LCD to demonstrate that they coincide with each VDAC initial voltage settings. VDAC APIs are used to subsequently increment each of four voltages in range from 0 to DAC Range (4 Volts).

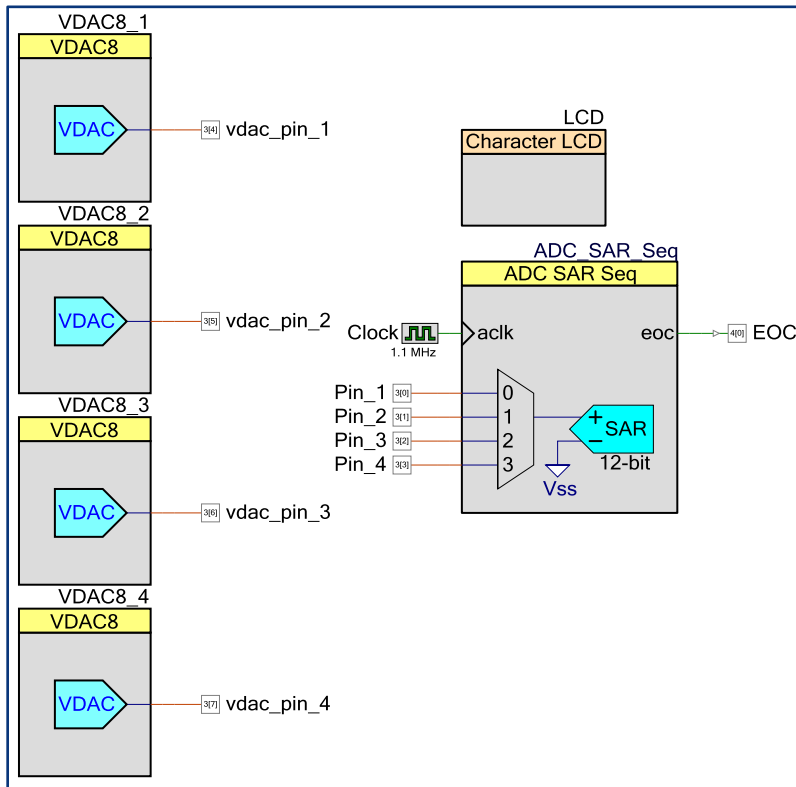
Converted voltages are displayed on the LCD.

For more information, see the project schematic.

Procedure

- The project is configured to use with the 5V supply. Therefore switch SW3 (VDD SELECT) on the CY8CKIT-001 to the 5V state.
- If you want to use a different input voltage, please change VDDA in the System Tab (.cydwr file) appropriately.
- Four VDACS are used as input voltage sources for the component.
- Initial settings for channels (from 1 to 4) are: 0.2, 0.4, 0.6, 0.8 Volts.
- Actual converted initial voltages are displayed on the LCD to demonstrate that they coincide with each VDAC initial voltage settings.
- VDAC APIs are used to subsequently increment each of four voltages in range from 0 to DAC Range (4 Volts).
- Converted voltages are displayed on the 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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