

BasicDesign Example

2.1

Features

- Timer
 1. Resolution : 8 bits
 2. Implementation : UDB
 3. Period : 256
 4. Trigger mode : None
 5. Capture mode : None
 6. Enable mode : Software and hardware
 7. Run mode : Continuous
 8. Interrupts : On TC
- ADC_DeISig
 1. Conversion mode : 1 – Multi sample
 2. Resolution : 12 bits
 3. Conversion rate : 10000 SPS
 4. Clock Frequency : 1310 kHz
 5. Input mode : Single
 6. Input range : Vssa to Vdda
 7. Buffer gain : 1
 8. Buffer mode : Rail to Rail

General Description

The BasicDesign project contains an example for use with the PSoC Creator Help tutorials: "Basic Design" and "Debugging a Design." This project and tutorials provide more details about working with a design, including pins, clocks and interrupts. This also provides a simple example that can be used with the debugger.

Development kit configuration

1. Used CY8CKIT-001 DVK1 development kit.
2. Build the project and program the hex file on to the target device using MiniProg3.
3. Connect pins as described below and power cycle the device.
4. Observe the results on the LCD and pins.

Project configuration

This project makes use of the ADC_DelSig, LCD and Timer components.

The Timer uses the 8-bit UDB configuration with interrupts enabled on TC. Enable mode of the Timer is set as Software and Hardware. Control register bits are used as the inputs to enable and reset input of the Timer. The TC output of the Timer is connected to port P0[0] of CY8CKIT-001 using a digital output pin. The Interrupt output is connected to the ISR component. The ISR routine reads the status register to clear the interrupt.

The ADC is configured in single ended mode with Vssa to Vdda as the input range. The input analog voltage is connected to Port P0[4] of CY8CKIT-001 using analog pin. On each successful ADC conversion, the result is displayed on the LCD.

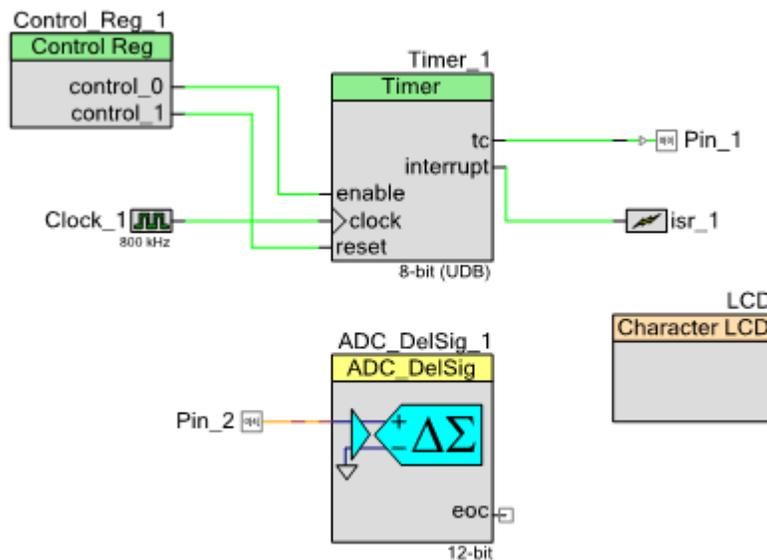


Figure 1 – Top Design Schematic

Project description

In the main function all components are started. For the proper usage of Timer and ADC_DeISig component, please refer to the corresponding component datasheets.

Expected Results

Timer:

TC output pulse is obtained with the interval of 320 us on P0(0).

ADC:

For input of 1V given to the pin P0(4) using VR, LCD displays:

ADC OUTPUT : 0345

ADC output varies with the input provided on P0(4).

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