

# Voltage Digital to Analog Converter example project

1.2

#### **Features**

Digital Value : 0xC8

Voltage Range: 0- 1.020(4mv/bit)

### **General Description**

This example project demonstrates the working of the VDAC8 with set digital value and low speed.

### **Development kit configuration**

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

#### **Project configuration**

This project consists of the VDAC8 component with an analog output pin. The analog output pin is which is connected to I/O port P0[4] of CYC8KIT-001 is used to observe the VDAC8 output on a multi-meter. Character LCD is used to display the test name and Range configuration.

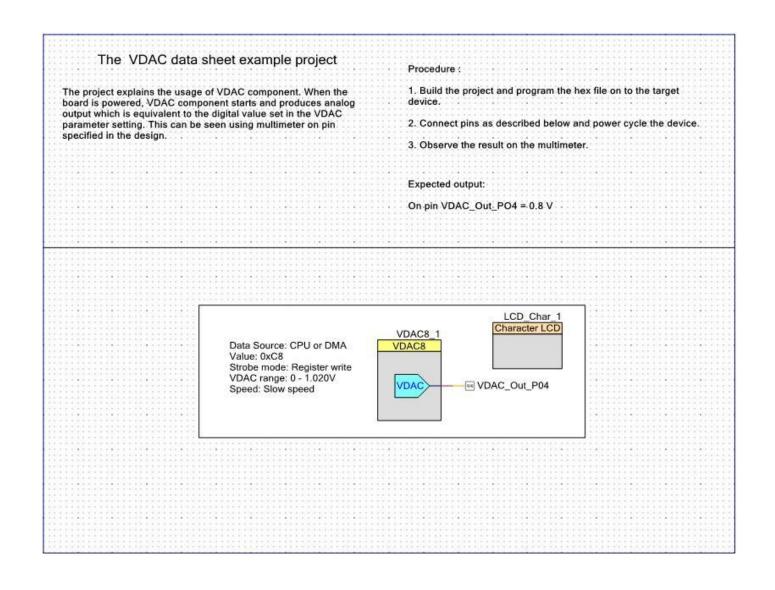


Figure 1. Top design schematic.

## **Project description**

In main function VDAC8 component is started. VDAC8 is configured with value 0xC8. VDAC8 output can be seen in pin P04 as it is shown in Figure 1 (Top design schematic)



## **Expected Results**

Character LCD displays the following:

VDAC DEMO Range : 0-1.020V

The converted analog output voltage of the VDAC8 is equivalent to the digital value set using the API().

Vout = 0.8V



#### Voltage Digital to Analog Converter

#### PSoC® Creator™ Component Datasheet Example

© Cypress Semiconductor Corporation, 2009-2012. The information contained herein is subject to change without notice. Cypress Semiconductor Corporation assumes no responsibility for the use of any circuitry other than circuitry embodied in a Cypress product. Nor does it convey or imply any license under patent or other rights. Cypress products are not warranted nor intended to be used for medical, life support, life saving, critical control or safety applications, unless pursuant to an express written agreement with Cypress. Furthermore, Cypress does not authorize its products for use as critical components in life-support systems where a malfunction or failure may reasonably be expected to result in significant injury to the user. The inclusion of Cypress products in life-support systems application implies that the manufacturer assumes all risk of such use and in doing so indemnifies Cypress against all charges.

PSoC® is a registered trademark, and PSoC Creator™ and Programmable System-on-Chip™ are trademarks of Cypress Semiconductor Corp. All other trademarks or registered trademarks referenced herein are property of the respective corporations.

Any Source Code (software and/or firmware) is owned by Cypress Semiconductor Corporation (Cypress) and is protected by and subject to worldwide patent protection (United States and foreign), United States copyright laws and international treaty provisions. Cypress hereby grants to licensee a personal, non-exclusive, non-transferable license to copy, use, modify, create derivative works of, and compile the Cypress Source Code and derivative works for the sole purpose of creating custom software and or firmware in support of licensee product to be used only in conjunction with a Cypress integrated circuit as specified in the applicable agreement. Any reproduction, modification, translation, compilation, or representation of this Source Code except as specified above is prohibited without the express written permission of Cypress.

Disclaimer: CYPRESS MAKES NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, WITH REGARD TO THIS MATERIAL, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Cypress reserves the right to make changes without further notice to the materials described herein. Cypress does not assume any liability arising out of the application or use of any product or circuit described herein. Cypress does not authorize its products for use as critical components in life-support systems where a malfunction or failure may reasonably be expected to result in significant injury to the user. The inclusion of Cypress' product in a life-support systems application implies that the manufacturer assumes all risk of such use and in doing so indemnifies Cypress against all charges.

Use may be limited by and subject to the applicable Cypress software license agreement.

