1.2 Volt Comparator (CSD Comp) example project

1.0

Features:

- Comparator’s input multiplexing

General Description

This example project demonstrates how the comparator's input can be multiplexed using the Analog Multiplexer (Amux) component.

Development kit configuration

1. This project is written for the Cypress CY8CKIT-040 kit.
2. Connect P1[4] pin to GND.
3. Connect P0[7] pin to VDD.
4. P3[2] pin is connected to the Red LED on the kit.
5. P1[1] pin is connected to the Green LED on the kit.
6. Build the project and program the hex file on to the target device.
7. Power cycle the device.
8. Observe LEDs' behavior depending on the voltage value on the Vplus1 and Vplus2 pins.

Project configuration

The example project consists of the digital output pins, analog pins, CSD_Comp and Amux Components. The RLed and GLed pins are used for software control of the respective LEDs. The CSD_Comp component configuration is shown in Figure 1.

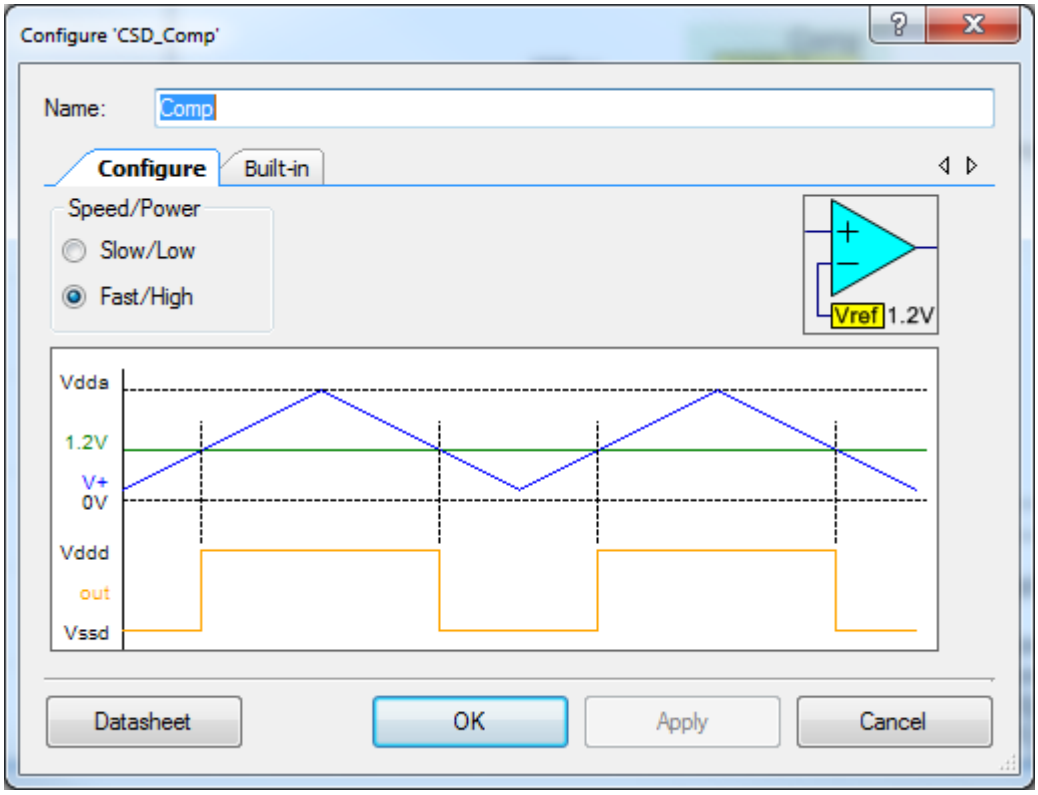

Figure 1 CSD_Comp component configuration

The top design schematic is shown in Figure 2.

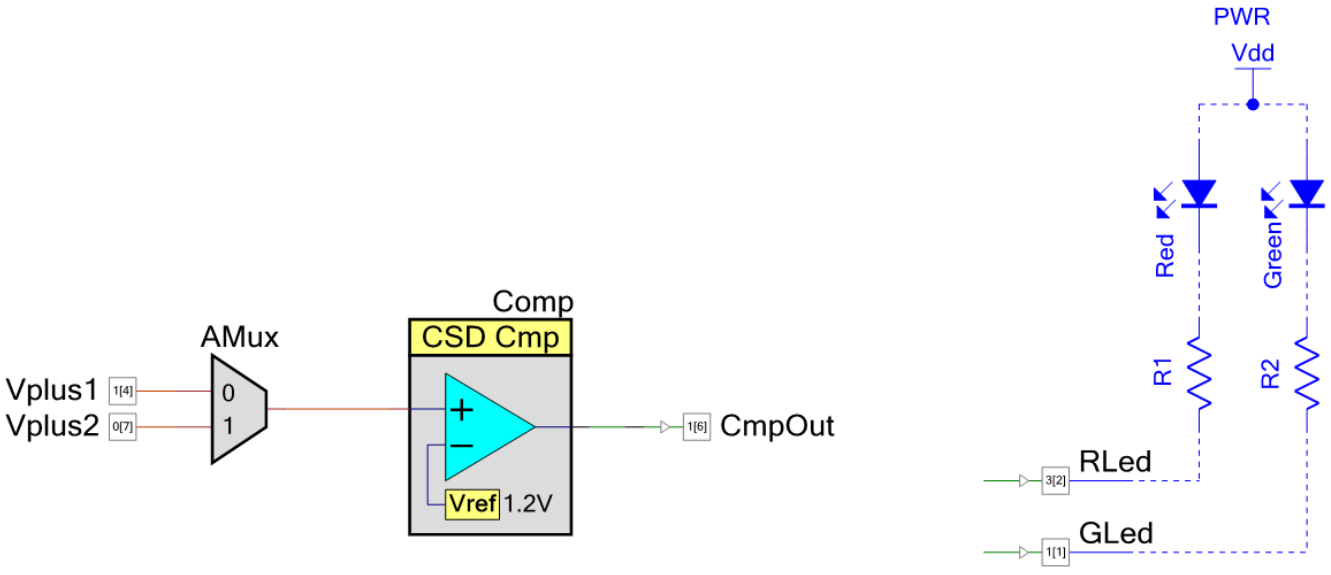

Figure 2 Top design schematic

Project description

The Vplus1 and Vplus2 pins continuously connect to the input. The GetCompare() API is used for polling the comparator output state. Depending on the result, the respective LED turns on or off.

Expected results

When the voltage connected to the pin is greater than Vref, the Green LED turns on; otherwise the Red LED turns on.