

PMOD Flash module

Features

This module breaks out all of the pins on a 16MB Winbond W25Q128JVS1Q flash chip onto a PMOD-compatible interface. This module can be easily plugged into various FPGA development boards.

Pull-up resistors are added to IO/2 and IO/3 to disable write protection and chip reset by default. This way, we can utilise the basic read/write functions without extra settings.

This module comes in handy when you need to add extra storage to our your FPGA projects or testing with flash chips.

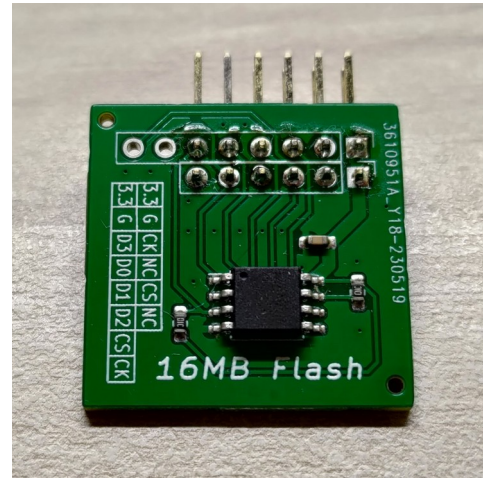


Figure 1: The assembled module.

Pin Configuration and Functions

When connecting to a PMOD interface on an FPGA development board, the logo side of the flash module should face upwards and the 90° pin headers should be installed on the logo side as well, as shown in figure 1.

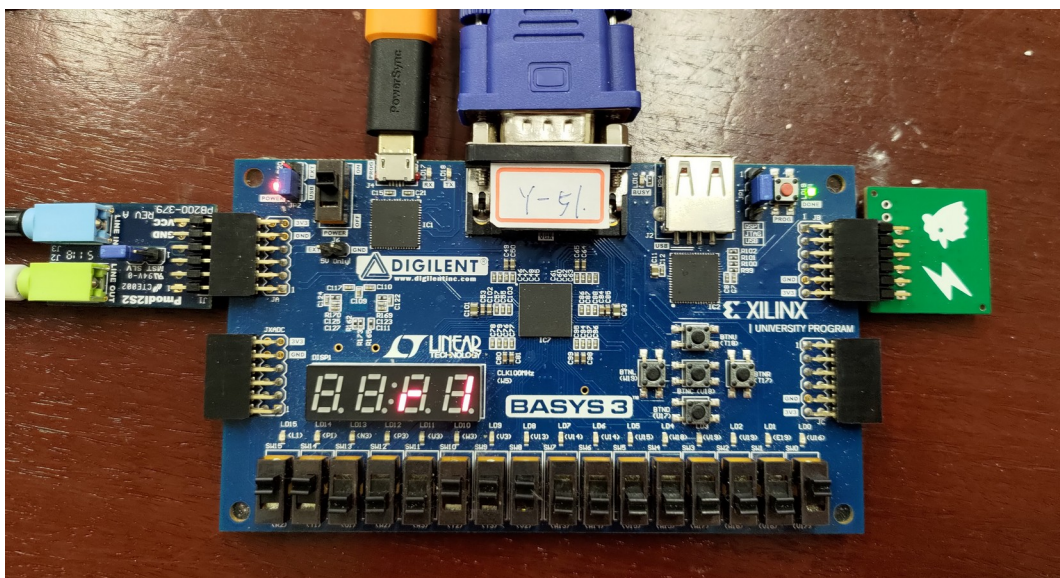


Figure 2: The PMOD Flash module connected to an FPGA development board.

PMOD pin	Flash pin	PMOD pin	Flash pin
1	(not connected)	7	IO/2
2	CS	8	IO/0
3	(not connected)	9	IO/1
4	SCK	10	IO/3
5	GND	11	GND
6	3.3V	12	3.3V

Table 1: Pinout of the module and the corresponding PMOD pin.

To maintain compatibility with breadboards, 2 more pins are added along the first row. When the module is intended to be used with a breadboard, only solder the 8 pin headers on the outer row of pins.

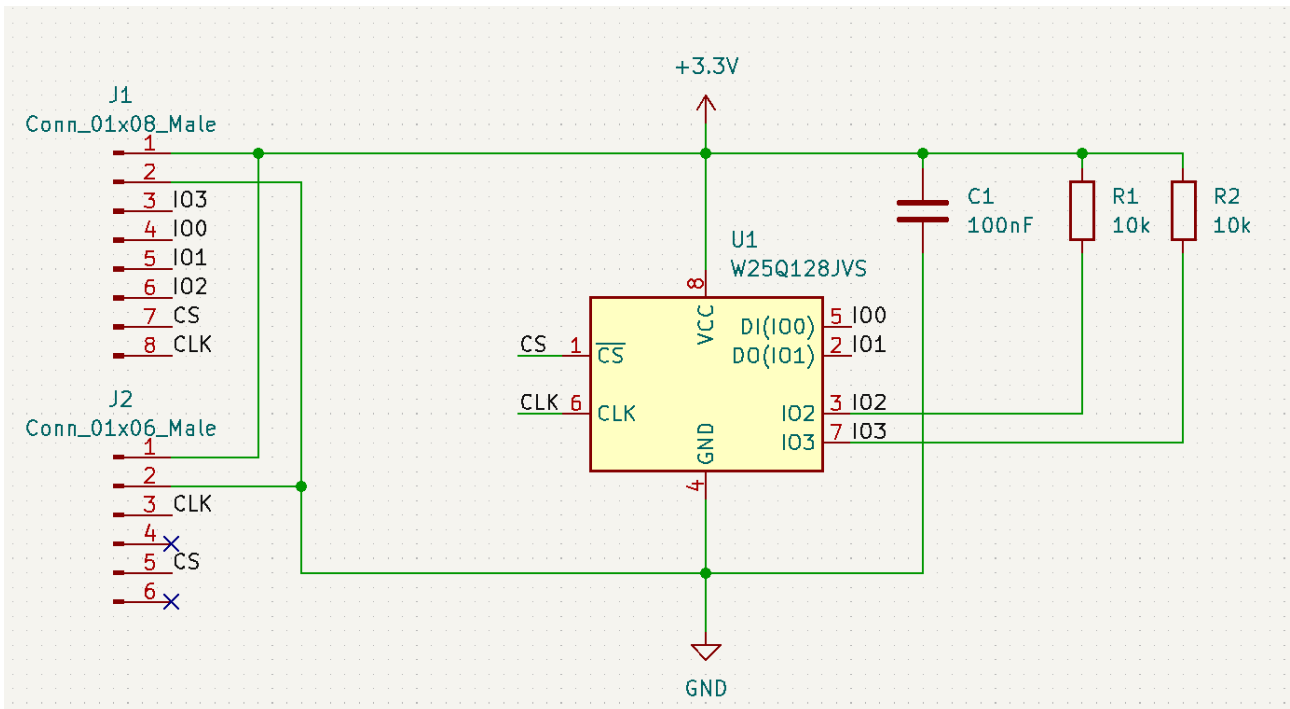


Figure 3: Circuit schematic of the PMOD Flash module.

There are pull-up resistors connected to IO2 and IO3, this disables write protection and chip reset by default. The two functions can still be used if desired by shorting the two pins to ground.

Notes

1. The pinout is also printed on the module, it is easier to find the corresponding pin with the table on the silk screen.
2. For the operation and commands for the Winbond Flash chip, please refer to the [datasheet](#).