PmodSD™ Reference Manual

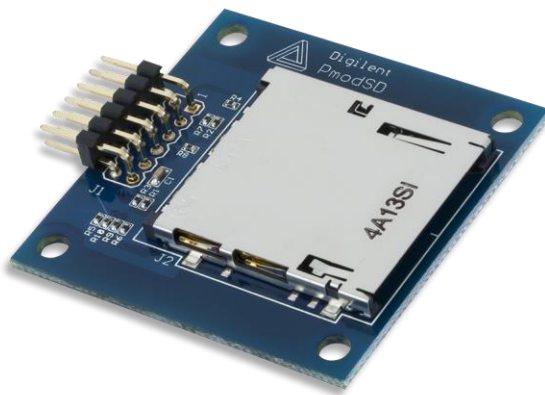**Revised April 12, 2016**
This manual applies to the PmodSD rev. B

Overview

The Digilent PmodSD allows system boards to read from and write to SD cards. With no limitation on the file system or memory size of the SD card, users will be able to store and access large amounts of data from their system board.

The PmodSD.

Features include:

- Full size SD card slot
- Store and access large amounts of date from your system board
- No limitation on file system or memory size of SD card used
- 1-bit and 4-bit communication
- Small PCB size for flexible designs 1.8" × 1.8" (4.6 cm × 4.6 cm)
- 12-pin Pmod port with SPI interface

1   Functional Description

The PmodSD is a great way to store and access information on a device that can then be accessed by outside devices such as a phone or computer.

1   Interfacing with the Pmod

The PmodSD is designed to communicate with the host board primarily through the SPI protocol. By default, the SD card itself is defined to boot up in SD mode, but will enter into SPI mode when the Chip Select line is pulled low. The actual technique of writing to and reading from specific locations on an SD goes beyond the scope of this document, but the complexity of the process is nicely abstracted away within the chipKIT SD library.

A pinout description table and diagram for the 2x6 pin header on the PmodSD can be found below:

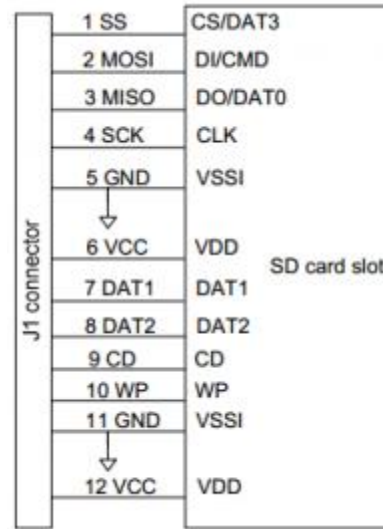| Pin	Signal	Description
1	~CS	Chip Select / Data3
2	MOSI	MOSI / Command
3	MISO	MISO / Data0
4	SCK	Serial Clock
5	GND	Power Supply Ground
6	VCC	Power Supply (3.3V)
7	DAT1	Data1
8	DAT2	Data 2
9	CD	Card Detect
10	WP	Write Protect
11	GND	Power Supply Ground
12	VCC	Power Supply (3.3V)

Table 1. Connector J1 pin descriptions.

Any external power applied to the PmodSD must be within the specifications of the inserted SD card. As determined by the SD card association, this voltage range must be within 2.7 to 3.6 volts. The 3.3 operating voltage on Digilent system boards nicely complies with this standard.

3   Physical Dimensions

The pins on the pin header are spaced 100 mil apart. The PCB is 1.8 inches long on the sides parallel to the pins on the pin header and 1.8 inches long on the sides perpendicular to the pin header.