

3. SD Card Interface Description

3.1. General Description of Pins and Registers

The SD Card has nine exposed contacts on one side (see Figure 3-1). The host is connected to the SD Card using a dedicated 9-pin connector.

3.1.1. Pin Assignments in SD Card Mode

Table 3-1 lists the pin assignments and definitions in SD Card Mode.

Table 3-1. SD Bus Mode Pad Definition

Pin #	Name	Type ¹	SD Description
1	CD/DAT3 ²	I/O ³	Card Detect/Data Line [Bit 3]
2	CMD	I/O	Command/Response
3	V _{SS1}	S	Supply voltage ground
4	V _{DD}	S	Supply voltage
5	CLK	I	Clock
6	V _{SS2}	S	Supply voltage ground
7	DAT0	I/O	Data Line [Bit 0]
8	DAT1	I/O	Data Line [Bit 1]
9	DAT2	I/O	Data Line [Bit 2]

NOTES: 1) S=power supply; I=input; O=output using push-pull drivers.

2) The extended DAT lines (DAT1-DAT3) are input on power up. They start to operate as DAT lines after the SET_BUS_WIDTH command. It is the responsibility of the host designer to connect external pullup resistors to all data lines even if only DAT0 is to be used. Otherwise, non-expected high current consumption may occur due to the floating inputs of DAT1 & DAT2 (in case they are not used).

3) After power up, this line is input with 50Kohm(+/-20Kohm) pull-up (can be used for card detection or SPI mode selection). The pull-up may be disconnected by the user, during regular data transfer, with SET_CLR_CARD_DETECT (ACMD42) command.