MICRO SD Expansion Module
User Guide

ⓢNUMATO LAB

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Introduction

Micro SD Expansion Module provides an easy and convenient way to interface Micro SD card to Numato Lab's FPGA/Micro-controller boards. It can be connected to any FPGA/Micro-controller board featuring 2x6 pin Expansion connector. This module can be manually wired to FPGA/Micro-controller boards that does not have 2x6 expansion header.

Applications

- Product Prototype Development
- Development and testing of custom Projects
- Audio playback device development
- Data logging

Board features

- Micro SD card slot
- 2x6 pin expansion connectors
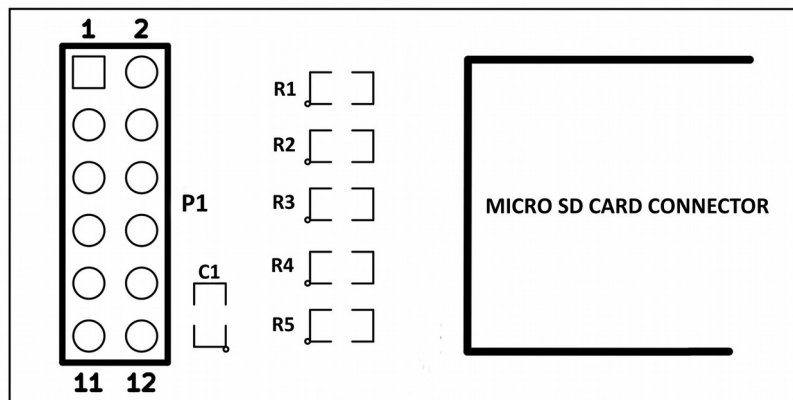- Dimension: 19mm X 38mm

How to use the module

The following section describes how to use this module.

Components/Tools required

Along with the module, you may need the items in the list below for easy and fast installation.

1. Any FPGA board featuring a 2x6 pin Expansion connector

Connection Diagram

This diagram should be used as a reference only. For detailed information, see the schematics at the end of this document. Details of individual connectors are as below.

To use this module, directly attach the 2x6 expansion connector to the FPGA/Micro-controller development board where corresponding female header is available. If 2x6 female header is not available, manually make the connections as per the connection details below.
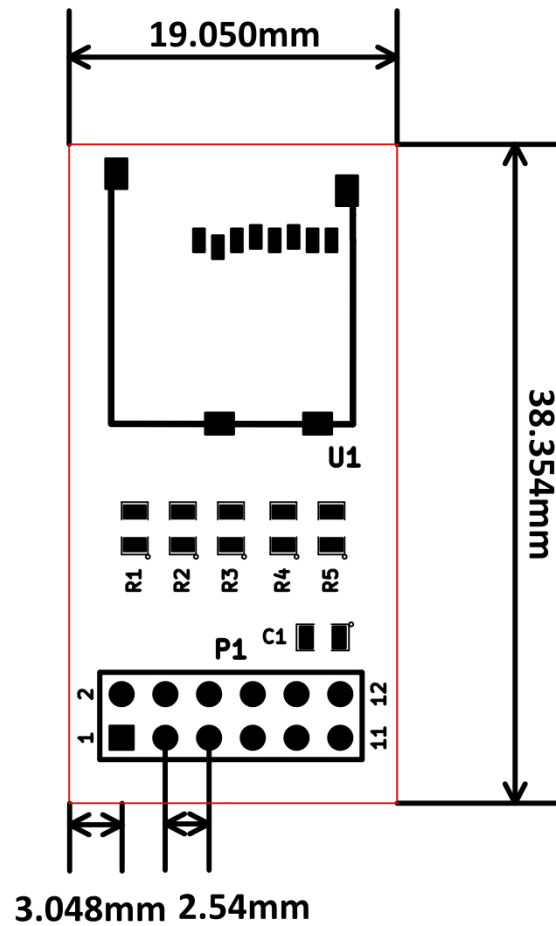
Connection Details

Header P1

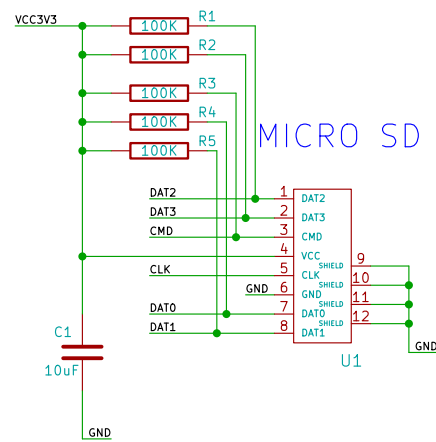| Header Pin No.	Pin Details	
	SD MODE	SPI MODE
1	DAT3	CS
2	DAT2	-
3	CLK	SCLK
4	CMD	DI
5	DAT1	-
6	DAT0	DO
7	-	-
8	-	-
9	GND	GND
10	GND	GND
11	VCC3V3	VCC3V3
12	VCC3V3	VCC3V3

For more information, refer the schematics below.

Physical Dimensions

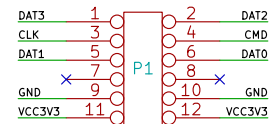L x W x H : 38.354 mm x 19.050 mm x 9 mm

Schematics

See next page

MICRO SD ADAPTOR   EXPANSION CONNECTOR

VCC3V3

| R1 100K |
| R2 100K |
| R3 100K |
| R4 100K |
| R5 100K |

U1

Pin	Signal
1	DAT2
2	DAT3
3	CMD
4	VCC
5	CLK SHIELD
6	GND SHIELD
7	DAT0 SHIELD
8	DAT1 SHIELD
9	SHIELD
10	SHIELD
11	SHIELD
12	SHIELD

DAT2
DAT3
CMD
GND
CLK
DAT0
DAT1

C1
10uF

GND

GND

P1

DAT3	1		2	DAT2
CLK	3		4	CMD
DAT1	5		6	DAT0
	7		8	
GND	9		10	GND
VCC3V3	11		12	VCC3V3