

AD9283 ADC Expansion Module

User Guide

Get in touch with us!

Please feel free to send a mail to one of the mail IDs below or use the Contact Us page at <http://www.numato.com> to drop us a quick message.

Technical Help

Got technical questions? Please write to help@numato.com

Sales Team

Questions about making payments, volume discounts, academic/open source discounts, purchase orders and quotes? Please write to sales@numato.com

Webmaster

Questions/Suggestions about our website? Please write to webmaster@numato.com



Like us on Facebook! <https://www.facebook.com/numato>

Visit our blog <http://www.numato.cc> for news, updates and specials.

Mailing Address

Numato Systems Pvt Ltd
1st Floor, #56C Wipro Avenue
Phase 1 - Electronic City
Bangalore, KA-560100, India

* Mail orders, phone orders and direct pick up are not available at this time. Please visit our online store to place your order. Estimated shipping time to your address will be displayed in the shopping cart before checkout.



SOME RIGHTS RESERVED

You may use, modify or share this publication or part of thereof adhering to Creative Commons Attribution-ShareAlike 3.0 Unported (CC BY-SA 3.0) License.

See complete license text at <http://creativecommons.org/licenses/by-sa/3.0/>

All trademarks are property of their respective owners.

Introduction

This ADC module features AD9283 an 8-bit monolithic sampling analog-to-digital converter with an on-chip track and hold circuit. The maximum conversion rate is at 100 MSPS, with outstanding dynamic performance over its full operating range. This module is designed to be used with Numato Lab's FPGA/Micro-controller boards featuring a 2x6 pin Expansion connector. It can also be used with other boards and connector types by using manual wiring.

Applications

- Product prototyping
- Low Cost Digital Oscilloscopes
- Data acquisition
- Digital Instrumentation

Board features

- Two 2x6 expansion connectors
- 8-Bit, 100 MSPS ADC
- On-Chip Reference and Track/Hold
- SNR = 46.5 dB @ 41 MHz at 100 MSPS
- Low Power: 90 mW at 100 MSPS
- Dimension: 35mm X 48mm

How to use the module

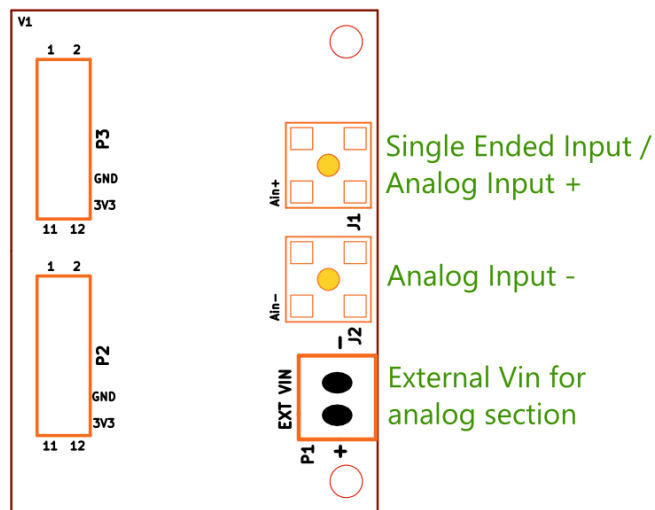
The following section describes how to use this module.

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 (Manual wiring may be needed if using with boards that does not have 2x6 expansion connector)
2. DC Power supply (5-7)V.

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 1x6 male header on the expansion module to the upper or lower row of a 2x6 expansion connector on FPGA/Micro-controller development board. If 2x6 female headers are not available, manually make the connections as per the connection details below.

Connection Details

Header P3

Header Pin No.	Pin Details
1	D7
2	D6
3	D5
4	D4
5	D3
6	D2
7	D1
8	D0
9	GND
10	GND
11	VCC3V3
12	VCC3V3

Header P2

Header Pin No.	Pin Details
1	-
2	-
3	CLK
4	PWRDWN
5	-
6	-
7	-
8	-
9	GND
10	GND
11	VCC3V3
12	VCC3V3

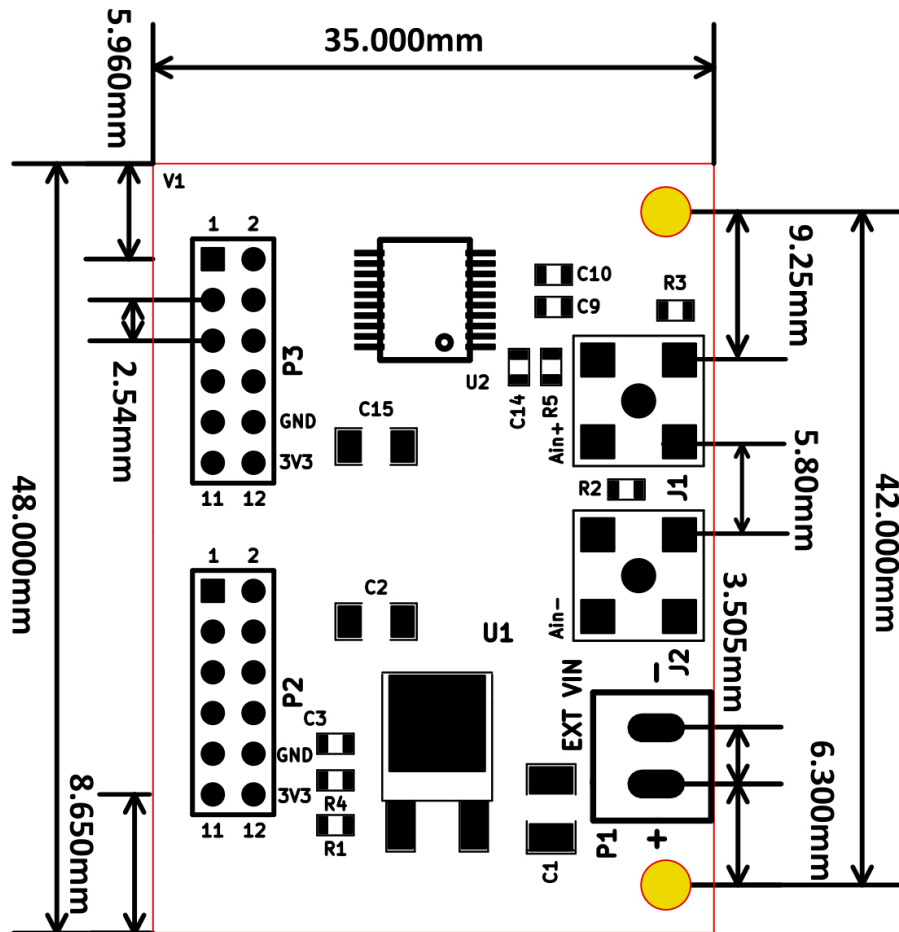
For more information, refer the schematics at the end of this document.

Technical Specifications

Parameter *	Value	Unit
Basic Specifications		
Conversion resolution	8	Bits
Max Sample rate	100	MSPS
SNR	46.5 dB @ 41 MHz at 100 MSPS	
External Power Supply		
DC Power Supply (V_D)	3.3	V
Analog Input Voltage	-0.5 to $V_D + 0.5$	V

All parameters considered nominal. Numato Systems Pvt Ltd reserve the right to modify products without notice.

Physical Dimensions

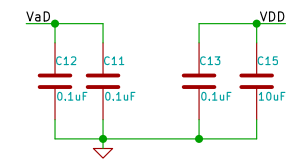
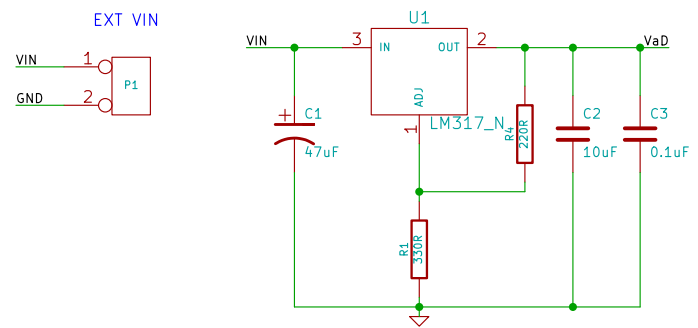
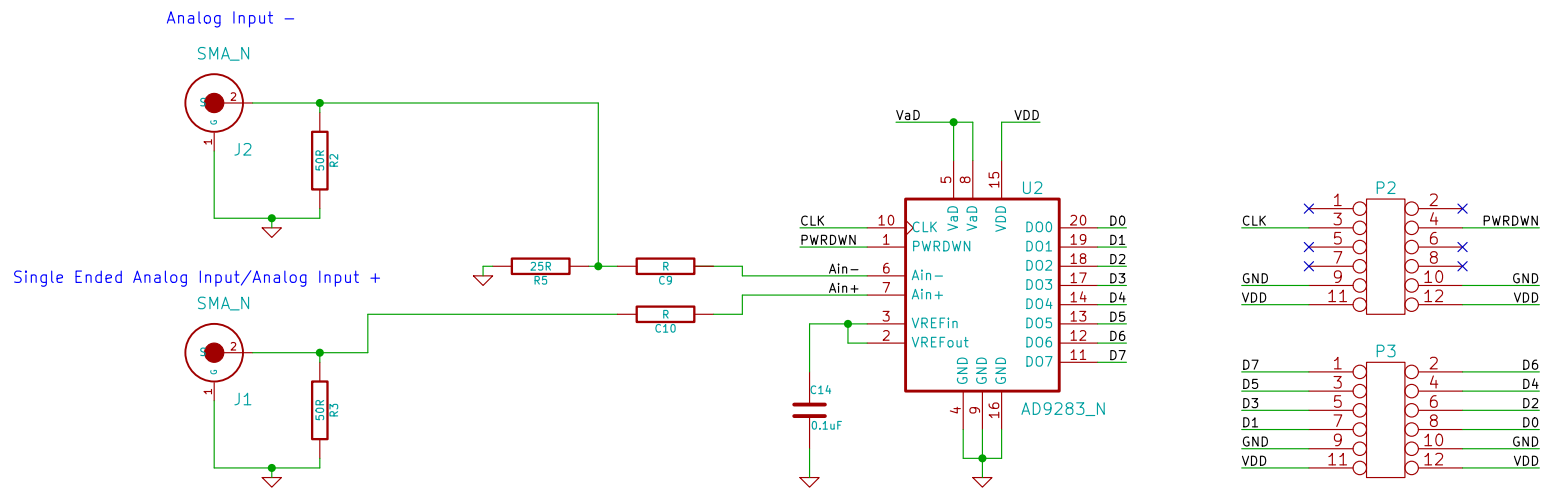


L x W x H : 48.00 mm x 35.00 mm x 14 mm

Mechanical Hole Diameter : 3.2 mm

Schematics

See next page.



License: CC BY-SA		
http://www.numato.com		
Numato Lab		
File: ADCExpansionModule.sch		
Sheet: /		
Title: ADC Expansion Module		
Size: A4	Date: 9 aug 2016	Rev: 1.0
KiCad E.D.A.		Id: 1/1