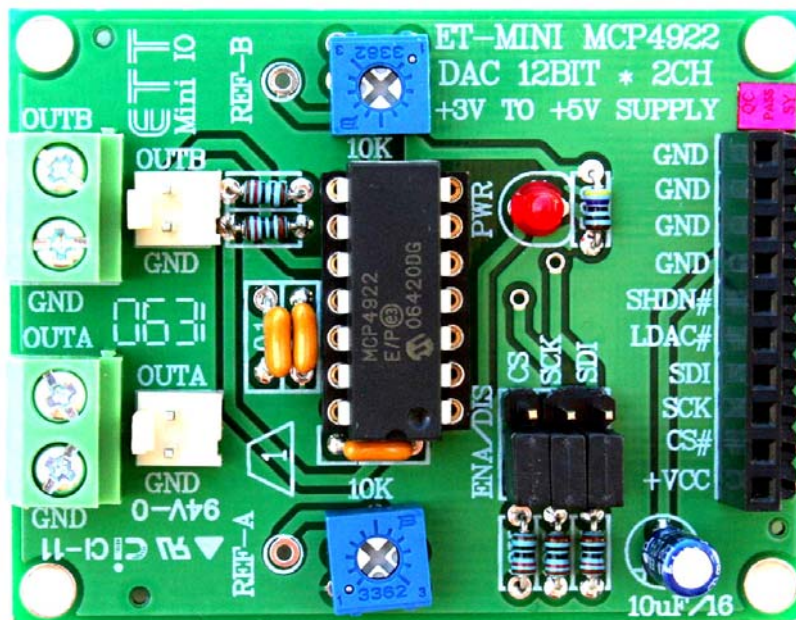


**MR-MINI-12BIT-DAC™ Mini 12-BIT Digital-to-Analog Converter
User Manual**

GRAVITECH.US



MicroResearch
GRAVITECH GROUP

Copyright © 2007 MicroResearch
GRAVITECH GROUP WWW.GRAVITECH.US

MR-MINI-12BIT-DAC™ Mini 12-BIT Digital-to-Analog Converter User Manual

Description

The MR-MINI-12BIT-DAC is a dual channel 12-Bit Digital-to-Analog Converters with optional 2x buffered output and SPI interface. There are no external components required. This makes it perfect for embedded systems that require digital-to-analog converter.

This board features innovations that set it apart from other digital-to-analog converter module. Innovations feature like on-board variable resistors for setup reference voltages, enable/disable jumpers, pull-up resistors, output terminal block and power LED. The module can be quickly connected discrete wires or header pins. The board is small and compact in size 2.20 x 1.70 inches.

The MR-MINI-12BIT-DAC is designed base on MCP4922 IC. They are DACs that provide high accuracy and low noise performance for industrial applications where calibration or compensation of signal (such as temperature, pressure and humidity) is required.

The devices utilize resistive string architecture, with its inherent advantages of low DNL error, low ratio metric temperature coefficient and fast settling time. These devices are specified over the extended temperature range. Also, include double buffered inputs, allowing simultaneous updates using the LDAC pin. These devices also incorporate a Power-On Reset (POR) circuit to ensure reliable power-up.

Please take a look at MCP4922 datasheet for more detail.

Features

- 12-Bit resolution
- Dual channel output and selectable output gain 1x or 2x
- Rail-to-rail output
- Fast settling time of 4.5uS
- Reference voltages VrefA and VrefB can be adjust from 0 to VCC via on-board potentiometer
- 2.7V to 5.5V single-supply operation
- SPI™ interface with 20MHz clock support
- Small and compact in size
- Four mounting holes on each corner
- Female and male header connector.

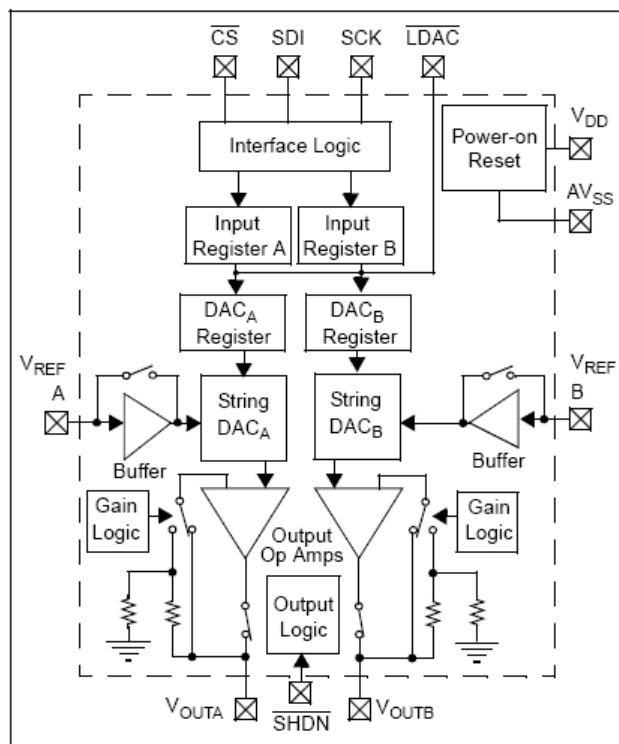


FIG 1: MCP4922 block diagram

MR-MINI-12BIT-DAC™ Mini 12-BIT Digital-to-Analog Converter User Manual

Pin out:

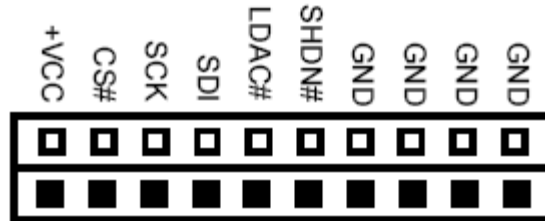


FIG 1: Bottom view pin out

Name	Type	Description
+VCC	PWR	Supply power (2.7V to 5.5V)
CS#	Input	Chip select input (active low)
SCK	Input	Serial clock input
SDI	Input	Serial data input
LDAC#	Input	Synchronization input used to transfer DAC setting from serial latches to the output latches
SHDN#	Input	Hardware shutdown input
GND	PWR	Supply ground

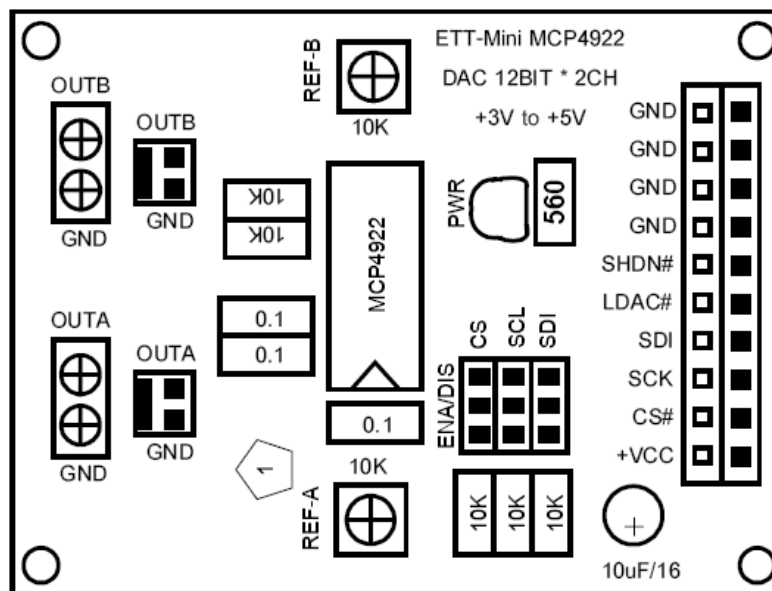


FIG 2: MR-MINI-12BIT-DAC Board Layout

MR-MINI-12BIT-DAC™ Mini 12-BIT Digital-to-Analog Converter User Manual

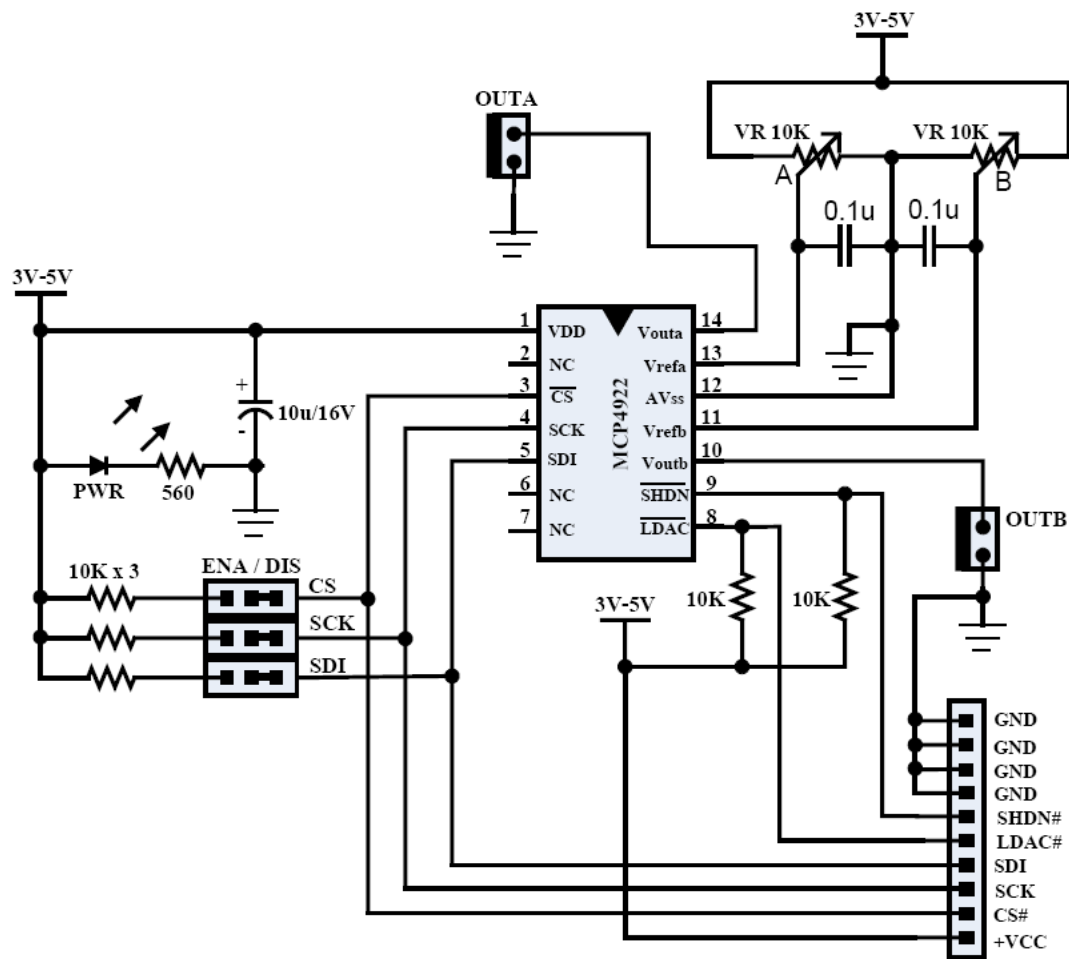


FIG 3: MR-MINI-12BIT-DAC Schematic



MR-MINI-12BIT-DAC™ Mini 12-BIT Digital-to-Analog Converter User Manual

Notes

Contact Us

We maintain a website where you can get information on our products, obtain literature and download support files. Visit us online at:

WWW.GRAVITECH.US

Use our online Forum or e-mail your technical support questions to support@gravitech.us. We try to respond to your questions the same day.

For sales questions or to place and order, direct your e-mails to sales@gravitech.us. Refer to our website for product pricing, shipping rates, payment instructions, and for other info we need to complete your order.

Disclaimer: MicroResearch reserves the right to modify its products or literature, or to discontinue any product at any time without prior notice. The customer is responsible for determining the suitability of any device for any application developed using MicroResearch components.

Copyright © 2007 MicroResearch
GRAVITECH GROUP WWW.GRAVITECH.US