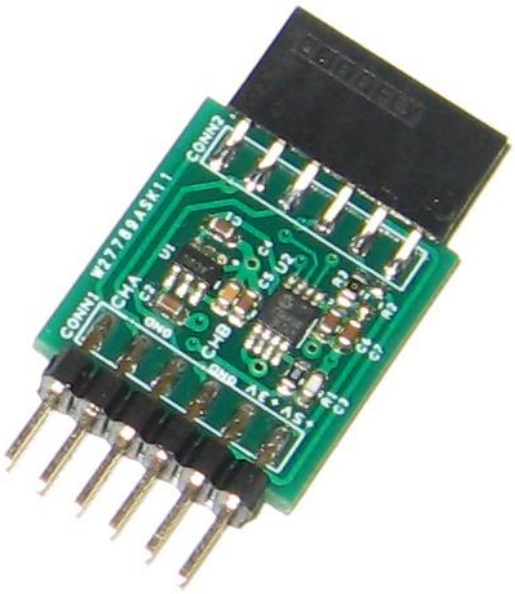
ArtTech Labs



12bit DAC module

MCP4921

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Description

The MCP4921 device are single channel 12-bit buffered voltage output Digital-to-Analog Converters (DACs). The device operates from a single 2.7V to 5.5V supply with an SPI compatible Serial Peripheral Interface.

Features

- Range of output voltages 0 - 3V;
- Management of the interface SPI;
- Resolution of 0.73 mV;
- Connects to the Attraction DOmini oscilloscope
- Rail-to-Rail Output
- SPI Interface with 20 MHz Clock Support
- Fast Settling Time of 4.5 µs
- Selectable Unity or 2x Gain Output
- External Voltage Reference Input
- External Multiplier Mode
- 2.7V to 5.5V Single-Supply Operation
- Extended Temperature Range: -40°C to +125°C

Connection

The module can be connected to an Attraction Domini oscilloscope or other a control device. The module is controlled via the SPI interface. The DAC uses the MCP4921 chip. The DAC is rated for 3.3 V input voltage, exceeding the voltage can lead to failure of the device.

Control and power connector

Top row	**1. CHA**	**2. GND**	**3. CHB**	**4. GND**	**5. +3.3V**	**6. +5V**
Bottom row	7. GND	8. SCK	9. NA	10. CS	11. SDO	12. GND

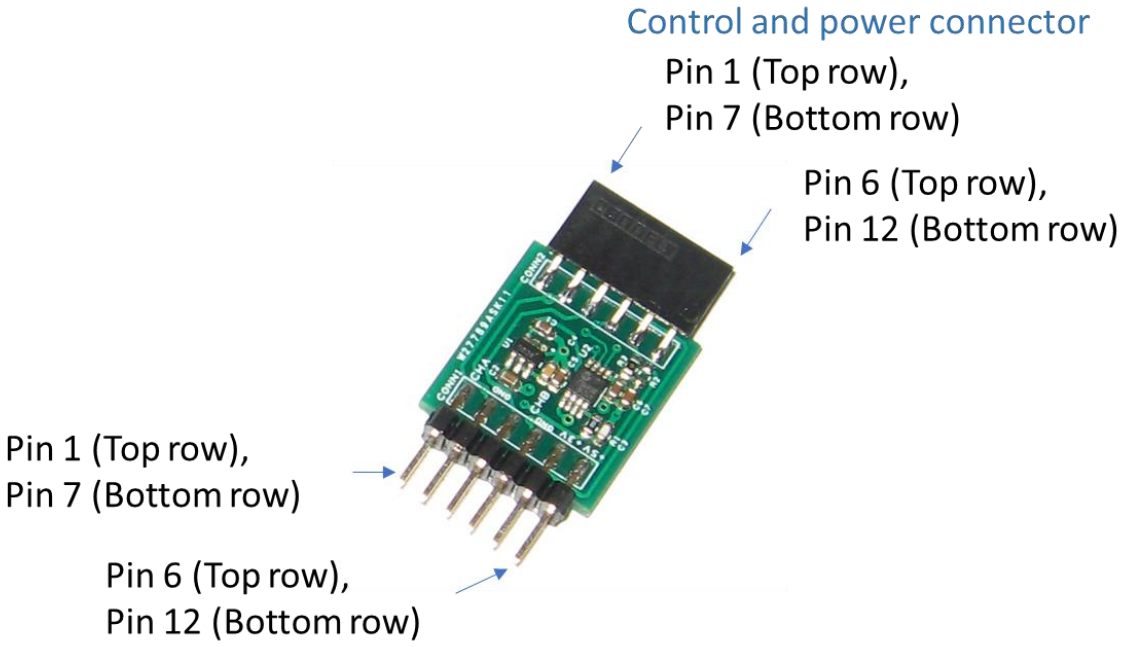
Load connectors (numbering from the edge of the board)

Top row	**1. CHA**	**2. GND**	**3. CHB**	**4. GND**	**5. +3.3V**	**6. +5V**
Bottom row	7. GND	8. DAC	9. DAC	10. DAC	11. GND	12. GND

Electrical Characteristics

PARAMETER	MIN	TYP	MAX
Input voltage	0 V		3 V
Resolution		0,73 mV	
Power supply voltage	3,1 V	3,3 V	3,6 V

View module



Load connectors