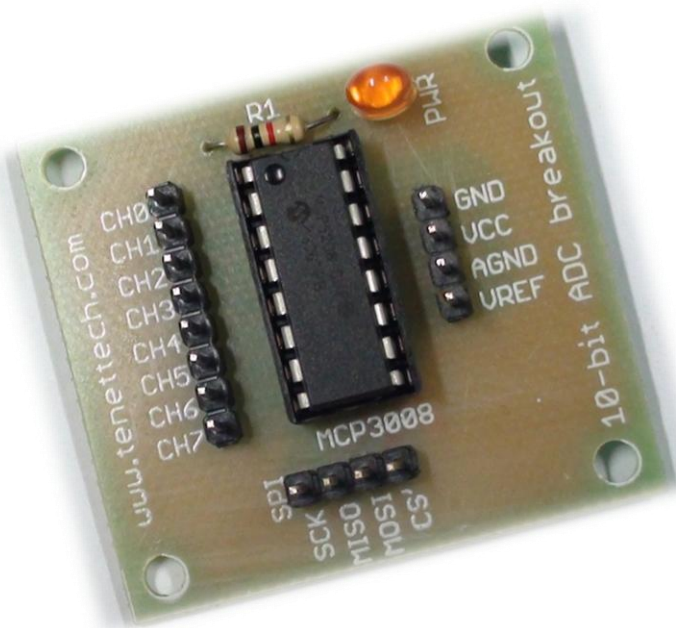


2016



Tenet's MCP3008 8-channel ADC breakout



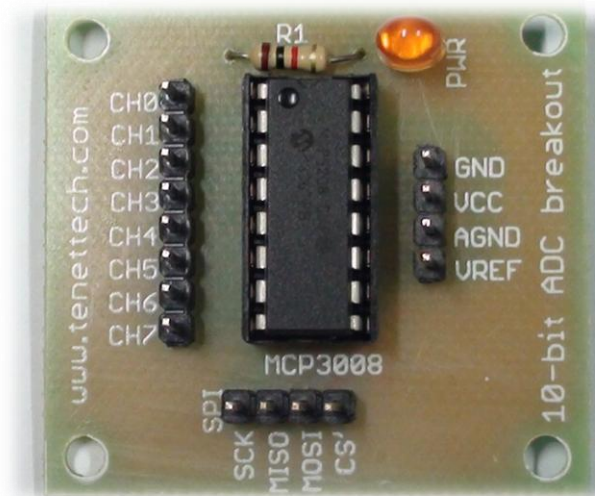
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Introduction

Tenet's MCP3008 breakout is a 10-bit ADC breakout. This breakout can be easily interfaced with any microcontrollers and microprocessors. This breakout has 8 ADC channels; it means 8 different analog devices can be interfaced. This breakout uses MCP3008 chip which is 10-bit ADC which produces 1024 different analog values.



Features

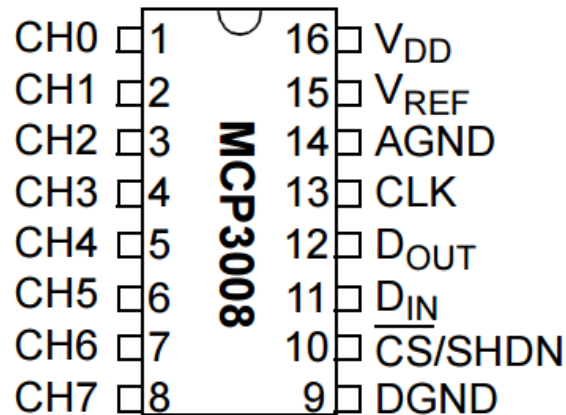
- 10-bit resolution
- ± 1 LSB max DNL
- ± 1 LSB max INL
- 4 (MCP3004) or 8 (MCP3008) input channels
- Analog inputs programmable as single-ended or pseudo-differential pairs
- On-chip sample and hold
- SPI serial interface (modes 0,0 and 1,1)
- Single supply operation: 2.7V - 5.5V
- 200 kbps max. sampling rate at VDD = 5V
- 75 kbps max. sampling rate at VDD = 2.7V
- Low power CMOS technology
- 5 nA typical standby current, 2 μ A max.
- 500 μ A max. active current at 5V
- Industrial temp range: -40°C to +85°C



Applications

- Sensor Interface
- Process Control
- Data Acquisition
- Battery Operated Systems

Pin details and Functions



Name	Function
V _{DD}	+2.7V to 5.5V Power Supply
DGND	Digital Ground
AGND	Analog Ground
CH0-CH7	Analog Inputs
CLK	Serial Clock
D _{IN}	Serial Data In
D _{OUT}	Serial Data Out
CS/SHDN	Chip Select/Shutdown Input
V _{REF}	Reference Voltage Input



Specifications

Absolute Maximum Ratings

Parameters	Specs.
VDD	7.0V
All inputs and outputs w.r.t. VSS .	-0.6V to VDD +0.6V
Storage temperature	-65°C to +150°C
Ambient temp. with power applied	-65°C to +125°C

