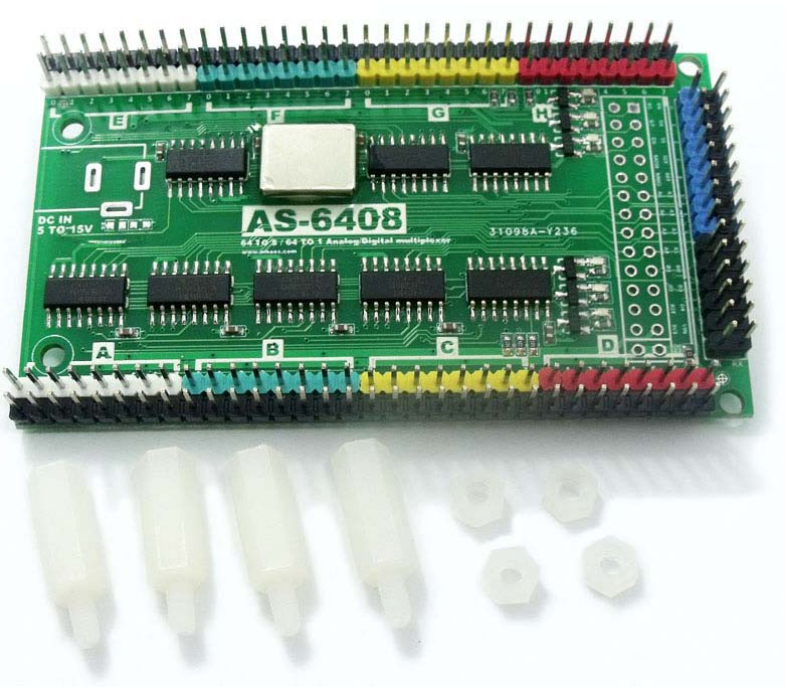
# AS-6408

## 64 to 8 / 64 to 1 Analog Multiplexer

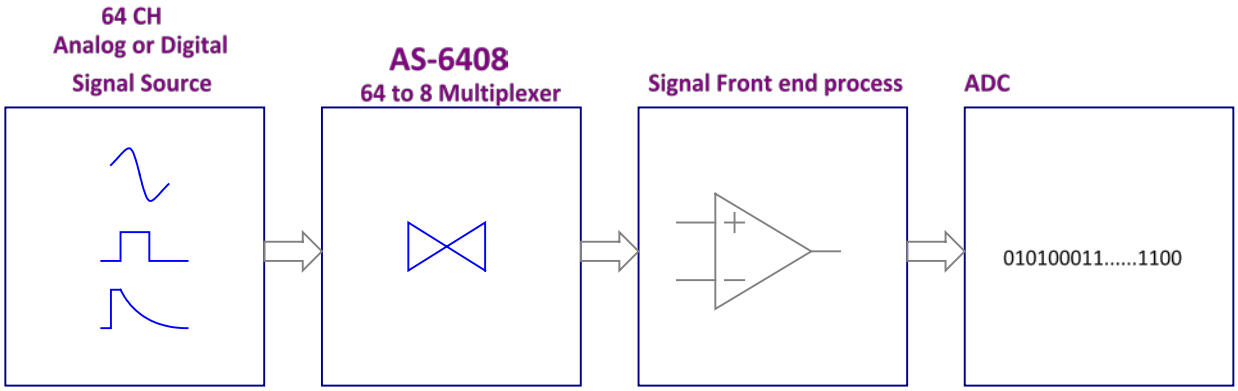
INHAOS™ Everything done inhouse

## Features

- Wide Range of Digital and Analog Signal Levels
  - Digital . . . . . 3V to 20V
  - Analog. . . . . ≤20VP-P
- Low ON Resistance, 125Ω (Typ) Over 15VP-P Signal Input Range for VDD-VEE = 18V
- High OFF Resistance, Channel Leakage of ±100pA (Typ) at VDD-VEE = 18V
- Matched Switch Characteristics, rON = 5Ω (Typ) for VDD-VEE = 15V
- Very Low Quiescent Power Dissipation Under All Digital-Control Input and Supply Conditions, 0.2µW (Typ) at VDD-VSS = VDD-VEE = 10V
- Binary Address Decoding on Chip
- 5V, 10V, and 15V Parametric Ratings
- Maximum Input Current of 1µA at 18V Over Full Package Temperature Range, 100nA at 18V and 25oC
- Break-Before-Make Switching Eliminates Channel Overlap
- One 8CH output and one 1CH output
- Onboard UNO CORE **( *OPTION* )**, can be working alone with UART output




## Typical Application




AS-6408 have two output ways, one is 64CH <-> 8CH and one is 64 <-> 1CH, the 1CH output is after the 8CH output and they can working at the same time.

AS-6408 have onboard UNO CORE design , that means it can be working alone to process the 64CH input and read by A0 to A7 with 10bit ADC , and then sent data via TXD/RXD , if you using the RF UNO CORE it can be implement wireless data acquisition very easy.

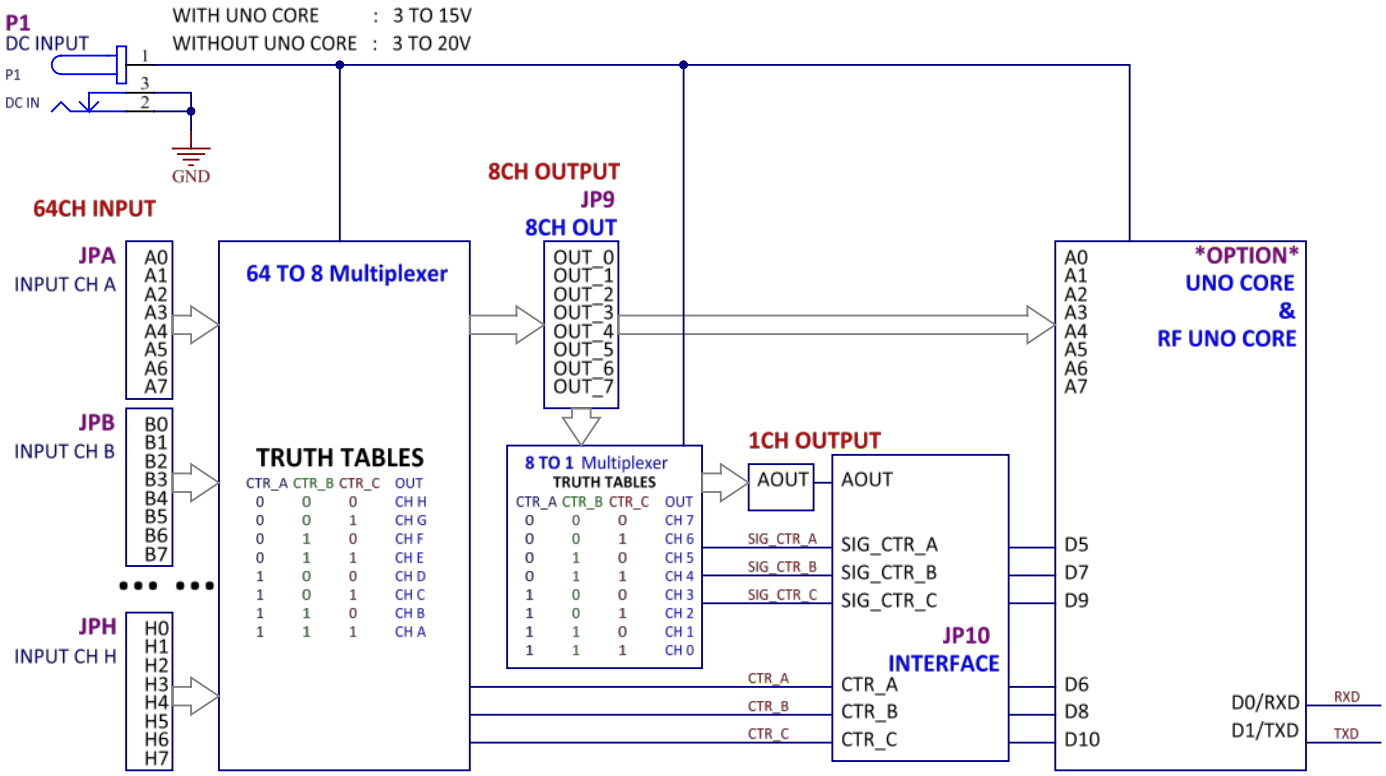
**The input signal level should not exceed VCC (Range of 0 to VCC), otherwise it may cause signal distortion.**

The control signal is standard COMS TTL-3.3V level.

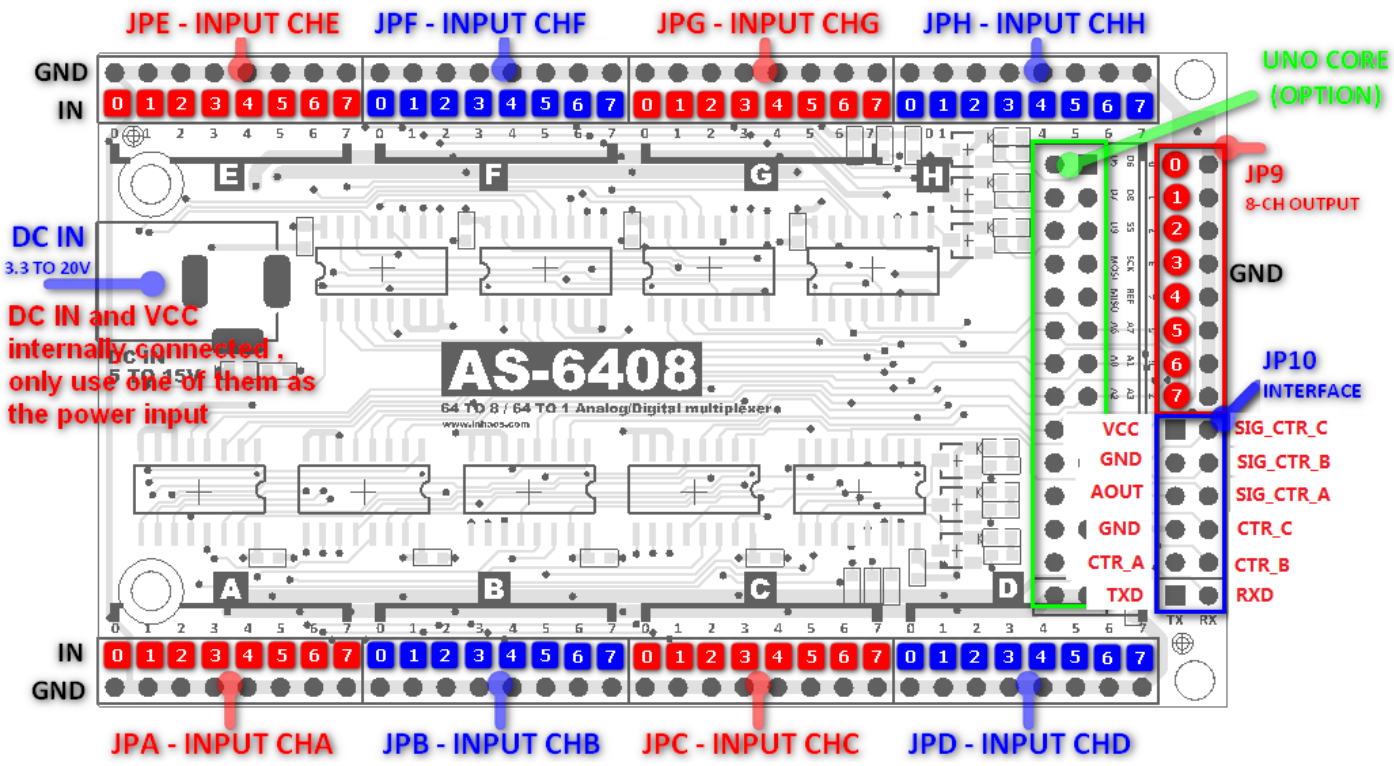
Main IC using 74HC4051D from NXP , the datasheet

link : http://www.nxp.com/products/automotive-products/discrete-and-logic/logic/analog-switches/8-channel-analog-multiplexer-demultiplexer:74HC4051D-Q100?fsrch=1&sr=3&pageNum=1

## Functional Block Diagrams




## PIN Descriptions




Please notes , DC IN and VCC internally connected , only use one of them as the power input.

When UNO CORE used , the VCC input range is DC 3.5 to 15V. otherwise the input range is 3.3 to 20V.

**The input signal level should not exceed VCC, otherwise it may cause signal distortion.**

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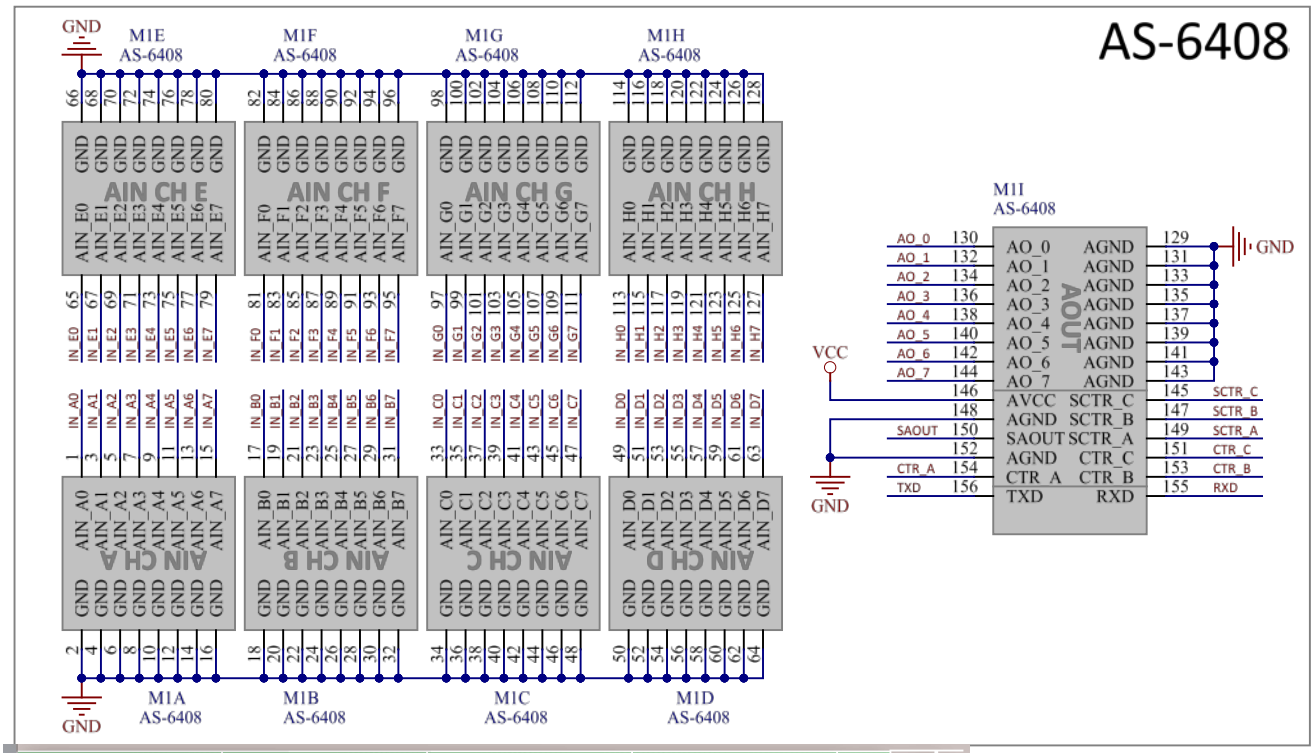
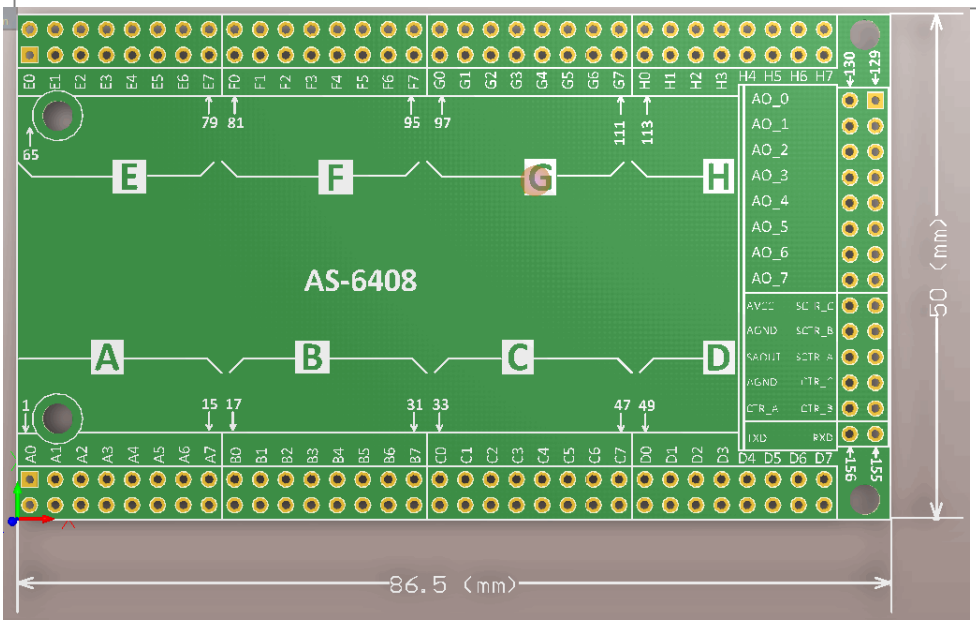
## Specifications

| | |
|---|---|
| Power supply : | |
| With UNO CORE | 3 to 15V |
| Without UNO CORE: | 3 to 20V |
| ON Resistance: | 125 Ohm |
| Change in ON Resistance: | 5Ohm |
| OFF channel leakage current: | +-0.01nA |
| Capacitance Input: | 30pF |
| INPUT Low: | Max 1.5V |
| INPUT HIGH: | Min 2.2V |
| Operation Temperature : | 0°C to 55°C |
| Operating Humidity : | 0 to 90% non-condensing |
| Storage Temperature : | -20°C to 65°C |

| | |
|---|---|
| Propagation Delay Time: | |
| Signal Input to Output | 10nS |
| Address-to-Signal OUT | 120nS |
| Cutoff (-3dB) Frequency : | 20MHz |
| THD(Total Harmonic Distortion): | 0.12% |
| Address-or-Inhibit-to-Signal Crosstalk | 65 mVPEAK |

## Schematic Symbol and PCB Package





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