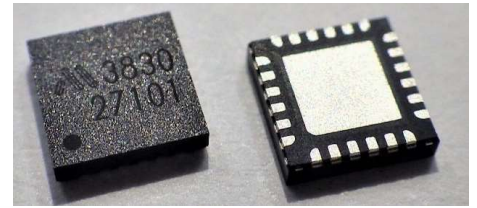


Analog Front End IC, built-in programmable amplifier

MV3830



Outline

MV3830 is analog front end IC which converts analog signal output from the sensor to digital signal, conducts digital signal processing and outputs to the host such as microcontroller etc. with digital transmission. By incorporating a programmable gain amplifier and a 24-bit $\Delta\Sigma$ ADC, it responds to a wide variety of sensors. It conforms with AEC-Q100 Grade2 and can be used in vehicles.

Applications

Products that amplify and digitally convert minute output signals from various sensors.
Pressure sensor, Air flow sensor, Strain gauge, etc.

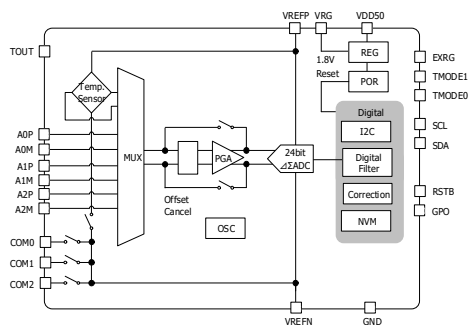
Features

- ① Built-in sensor drive power supply (1.8V)
- ② Equipped with sensor offset removal function
- ③ Built-in low noise programmable gain amplifier (1-128)
- ④ Equipped with high-precision 24-bit $\Delta\Sigma$ ADC
- ⑤ Built-in temperature sensor
- ⑥ Corrects temperature dependence (offset and gain)
- ⑦ Reduce sensor standby power loss with ON/OFF SW.
- ⑧ Interface type : I2C Fast Mode + CRC
- ⑨ AEC-Q100 Grade2 Qualified

Specification

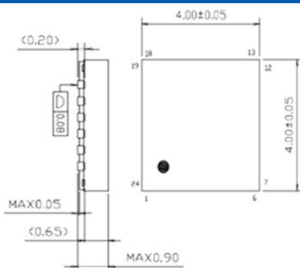
項目	仕様	単位
Operation temperature range	-40 ~ 105	°C
Operation supply voltage range	2.2 ~ 5.5	V
Current consumption (without PGA)	0.95	mA
Current consumption (Gain=4~16)	4.9	mA
Current consumption (Gain=32~128)	5.8	mA
Current consumption at Standby	max 3.2	μA
Regulator output current	~ 16	mA
PGA Gain setting	1 ~ 128	-
Input referd voltage noise	0.7 ~ 30.9	μVrms
AD conversion time	0.39 ~ 3.13	ms
INL	150	ppm

Block Diagram



Package

SQFN-24C



Application circuit

