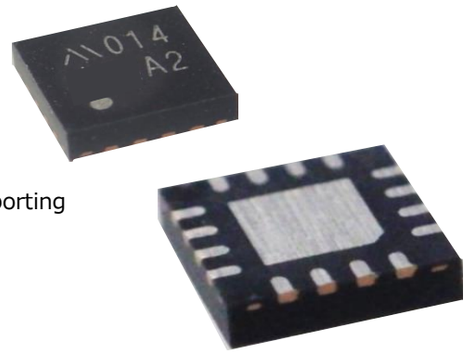
PRELIMINARY

16-, 14-, 12-bit 2-ch successive approximation analog-to-digital converter IC (750 Ksps)

MM4027A16/14/12



Outline

MM4027 is a sophisticated successive approximation analog-to-digital converter IC supporting pseudo-differential inputs.
Three types (16-, 14-, and 12-bit) are provided depending on the intended use.
Simultaneous sampling of analog inputs through two channels is available.
The maximum data sampling rate is 750 Ksps, controlled by an external clock.
This IC supports a serial interface.

Applications

- Industrial equipment
- Measuring instrument
- Motor control
- Medical equipment
- Robot

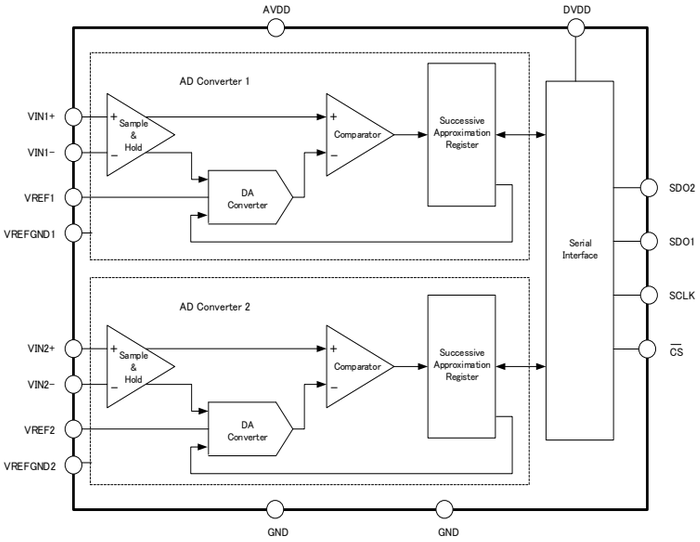
Features

① Power supply for analog: 5 V
Power supply for digital: 1.8 to 5 V
② 16-, 14-, and 12-bit successive approximation ADC
③ Simultaneous sampling and conversion through two channels
④ Two channels of pseudo-differential analog input
⑤ Sampling rate: 750 ksps at the maximum
⑥ Use of external reference voltage
⑦ AVDD current consumption: 8 mA typ.

Specification

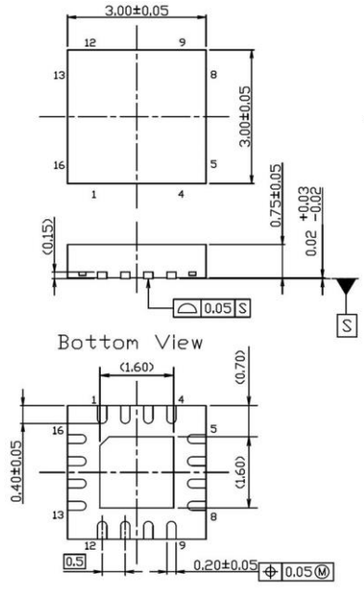
Item	Specification	Unit
Operation temperature	-40～125	℃
AVDD power supply	4.5～5.5	V
DVDD power supply	1.65～5.5	V
Reference input voltage	2.25～2.5～AVDD/2	V
Current consumption (Normal)	8	mA
Current consumption (Standby)	5	mA
Differential nonlinearity error	12bit:±1, 14bit:±1, 16bit:-1~2	LSB
Integral nonlinearity error	12bit:±1, 14bit:±1.5, 16bit:±2.5	LSB
Offset error	12bit:±2, 14bit:±1, 16bit:±1	mV
Gain error	±0.1	%FS

Block diagram



Package

- Dimensions (SQFN-16A)



MinebeaMitsumi
Passion to Create Value through Difference

Mitsumi Search
https://mtm-sec.mitsumi.co.jp/web/ic/

Mitsumi Electric CO.,LTD.
Semiconductor Business Division
Strategy Engineering Department
tel:+81-46-230-3470

December 2021 Rev.2