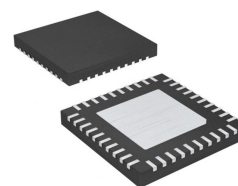


18bit 5Msps Analog to Digital Converter IC

MM4019



Outline

MM4019 is an AD converter with a conversion speed of 5Msps (maximum) and resolution of 18 bits. Since the reference voltage and buffer are built-in, the signal from the sensor can be received directly. The power supply is a dual 5V & 1.8V power supply system. It also supports fully differential analog inputs. It has excellent conversion characteristics and is suitable for high bandwidth data acquisition systems.

Applications

Industrial Instrumentation Motor Control
Robot Control Medical equipment
Sonar receiver Measuring equipment

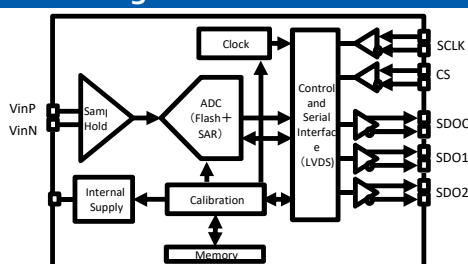
Features

- ① Sampling rate : 5Msps max.
- ② Resolution, no missing codes : 18bit.
- ③ Full-Differential analog inputs
- ④ Data Interface : Hi-speed SPI (LVDS)
- ⑤ Built in reference voltage
- ⑥ Small outline Package
- ⑦ Low latency
- ⑧ Excellent DC and AC characteristic

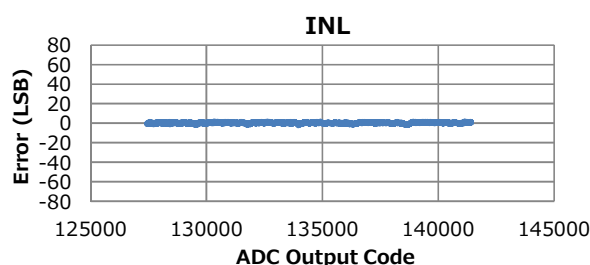
Specification

Item	Specification	Unit
Operation temperature	+10~+60	℃
Power supply	5 (Analog) / 1.8 (Analog, Digital)	V
Sampling rate	5 (Max.)	Msps
Vref voltage	4.096	V
Analog input voltage	-Vref~+Vref	V
INL	±5 (Typ.)	LSB
DNL	-1~+4 (Typ.)	LSB
Offset	±16 (Max.)	LSB
Power dissipation	92 (at 5Msps)	mW
Input capacitance	30	pF
Communication IF	LVDS	-

Block Diagram

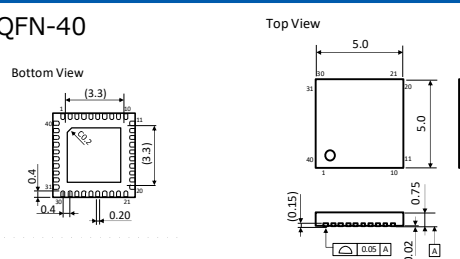


Typical Performance Characteristics

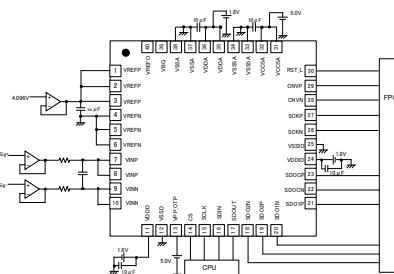


Package

•SQFN-40

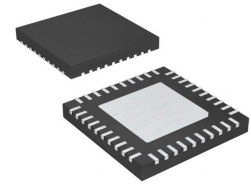


Application circuit

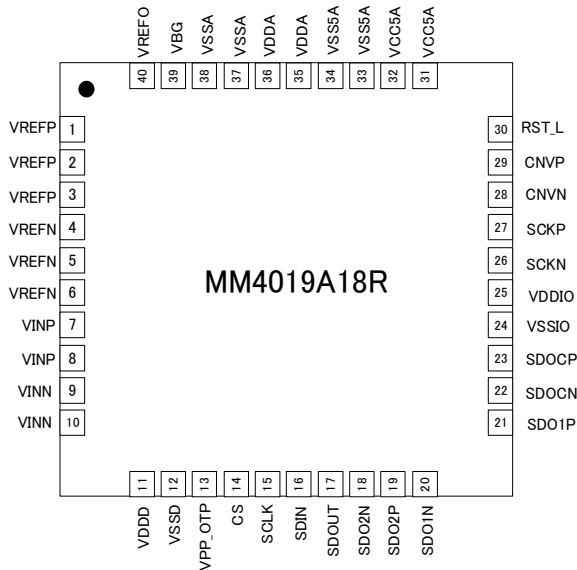


18bit 5Msps Analog to Digital Converter IC

MM4019



PIN CONFIGURATION



TERMINAL EXPLANATIONS

ピンNo PIN No	名称 SYMBOL	機能 FUNCTION
1-3	VREFP	VREF Positive Voltage Supply (VREF)
4-6	VREFN	VREF Negative Voltage Supply (VSS)
7-8	VINP	Differential Positive Analog Input
9-10	VINN	Differential Negative Analog Input
11	VDDD	1.8V Supply with a 10uF capacitor
12	VSSD	Connect to VSS (For Outgoing Inspection)
13	VPP_OTP	The VPP for OTP
14	CS	serial Interface for operation setting (ChipSelect)
15	SCLK	serial Interface for operation setting (Clock)
16	SDIN	serial Interface for operation setting (Data-in)
17	SDOUT	serial Interface for operation setting (Data-out)
18	SDO2N	LVDS Negative Output 2
19	SDO2P	LVDS Positive Output 2
20	SDO1N	LVDS Negative Output 1
21	SDO1P	LVDS Positive Output 1

ピンNo PIN No	名称 SYMBOL	機能 FUNCTION
22	SDOCN	LVDS Clock Negative Output
23	SDOCP	LVDS Clock Positive Output
24	VDDIO	1.8V Supply with a 10uF capacitor
25	VSSIO	The VSS for VDDD
26	SCKN	LVDS Clock Negative Input
27	SCKP	LVDS Clock Positive Input
28	CNVN	LVDS Negative Input (For starting conversion)
29	CNVP	LVDS Positive Input (For starting conversion)
30	RST_L	ADC Setting Reset
31-32	VCC5A	5V Supply with a 10uF capacitor
33-34	VSS5A	The VSS for VCC5A
35-36	VDDA	1.8V Supply with a 10uF capacitor
37-38	VSSA	The VSS for VDDA
39	VBG	Connect to nothing (For Outgoing Inspection)
40	VREFO	Internal Reference Voltage Output 4.096V

