

SENSYLINK Microelectronics

(CAD2512A04)

***12-Bit, 4-Ch ADC and Temperature
Sensor System Monitor with I²C
Interface***

CAD2512A04 is a system monitor chip to monitor 4-channels external analog input and sense local temperature with I²C Interface.

12-Bit, 4-Ch ADC and Temperature Sensor System Monitor with I2C Interface

1. Description

The CAD2512A04 is a system monitor chip with I²C interface.

The CAD2512A04 include a local temperature sensor, 4-channel analog input. An onboard temperature sensor, combined with WATCHDOG window comparators. A high performance internal reference is also available to provide for a complete solution in the most difficult operating conditions.

Analog input can be used for voltage monitor, like connecting analog output temperature sensor (CT7035) or monitor power supply voltage.

The CAD2512A04 supports standard mode (100 kHz) and fast mode (400 kHz) I²C interface.

Available Package: DFN3x3-8 package.

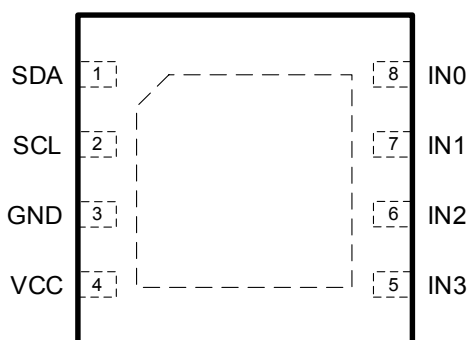
2. Features

- Operation Voltage: 3V to 5.5V
- 12-Bit Resolution Delta-Sigma ADC
- Local Temperature Accuracy:
- (-25°C to 100°C) $\pm 1^\circ\text{C}$ (Max.)
- (-40°C to 125°C) $\pm 1.5^\circ\text{C}$ (Max.)
- 2.56-V Internal VREF
- WATCHDOG Window Comparators with Status and Mask Registers of All Measured Values
- Independent Registers for Storing Measured Values
- I²C/SMBus Serial Bus Interface Compatibility
- Fixed Slave Addresses 0x3A
- TIME-OUT Reset Function to Prevent I²C Bus Lock-Up
- Individual Channel Shutdown to Limit Power Consumption
- Deep Shutdown Mode to Minimize Power Consumption
- Temperature Range: -40°C to 125°C

3. Application

- Communications Infrastructure
- Thermal and Hardware Server Monitors
- System Monitors
- Industrial and Medical Systems

4. PIN Configurations(Top View)



DFN3x3-8 (Package Code DN)

12-Bit, 4-Ch ADC and Temperature Sensor System Monitor with I2C Interface

5. Typical Application

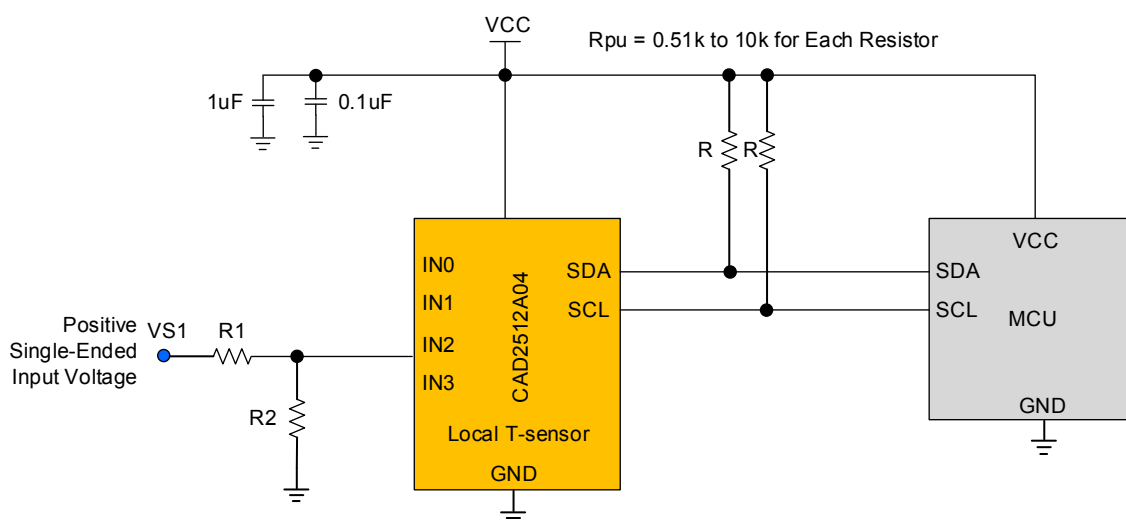


Figure 1 Typical Application of CAD2512A04

6. Pin Description

PIN Name	PIN No. DFN3x3-8	Description
SDA	1	Serial Bus Bidirectional Data. NMOS open-drain output. Requires external pull-up resistor to function properly.
SCL	2	Serial Bus Clock. Requires external pull-up resistor to function properly.
GND	3	Power Ground. Internally connected to all of the circuitry.
VCC	4	3.0-V to 5.5-V power. Bypass with the parallel combination of 1-μF (electrolytic or tantalum) and 0.1-μF (ceramic) bypass capacitors.
IN3	5	The full scale range will be controlled by the internal or external VREF. This input can only be assigned as single-ended.
IN2	6	The full scale range will be controlled by the internal or external VREF. This input can only be assigned as single-ended.
IN1	7	The full scale range will be controlled by the internal or external VREF. This input can only be assigned as single-ended.
IN0	8	The full scale range will be controlled by the internal or external VREF. This input can only be assigned as single-ended.

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7. Function Block

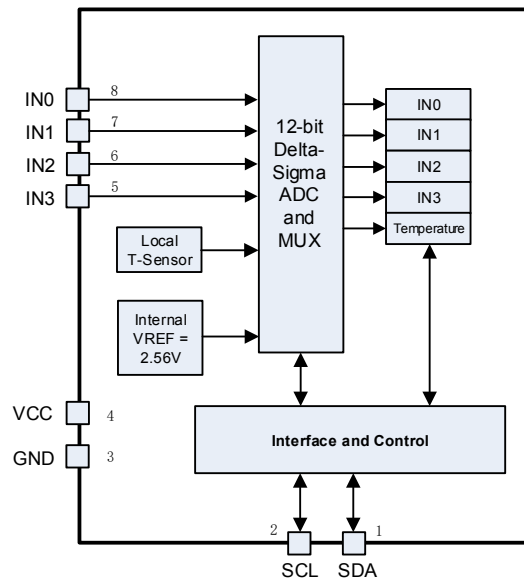
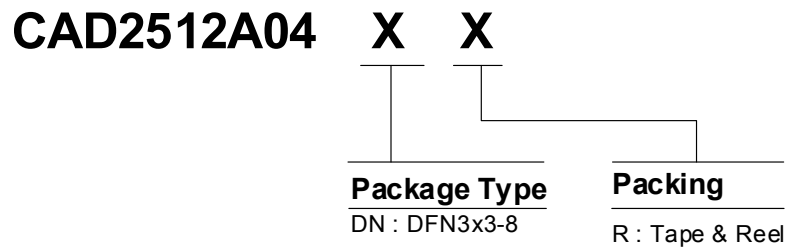


Figure 2 CAD2512A04 function block

12-Bit, 4-Ch ADC and Temperature Sensor System Monitor with I2C Interface
8. Ordering Information


Order PN	Green ¹	Package	Marking ID ²	Packing	MPQ	Operation Temperature
CAD2512A04DNR	Halogen free	DFN3x3-8	SAAH YWWAXX	Tape & Reel	3,000	-40°C ~ +125°C

Notes

1. Based on ROHS Y2012 spec, Halogen free covers lead free. So most package types Sensylink offers only states halogen free, instead of lead free.

2. Marking ID includes 2 rows of characters. In general, the 1st row of characters are part number, and the 2nd row of characters are date code plus production information.



SENSYLINK Microelectronics Inc.

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