SDI5209/SDI5219/SDI5220 series

List

V3.3

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Version update record

Version number date		illustrate
V2.X		Flash operation instructions (before operation, it is best to clear the security status, please pay attention to the latest sample code)
		Before configuring PCON to enter sleep, it is best to add an empty command "NOP"
		In a program that uses the "STOP1/2 entry instruction", it is best to set the priority of the "non-wake-up interrupt"
		Set low (reset default), the interrupt used for wake-up is set to high priority! ! (10.4 MCU
		Operating mode)
V3.0	2014.08	When using a 24-bit ADC and inputting signals from the outside through VIN1P\VIN1N and VIN2P/VIN2N,
		The input mode of port P2 must be configured as pure input mode, and the P2 register must be written with 0xff)
V3.2	2015.08	
V3.3	2016.01	Added description of external input pin T0/T1 in timer 0/1 counting mode

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1 Overview

1.1 Main features:

ÿ Core: Enhanced 80C51 (compatible with 8051 microcontroller) ÿ

Flash: more than 100,000 times of programming life, data can be saved for more than 100 years at room temperature.

30KB (SDI5209/SDI5219/SDI520) FLASH space; built-in ISP function

(SDA, SCL two-line burning)

ÿ **RAM:** 512Bytes

--- 256 Bytes internal RAM --- 256

Bytes embedded external addressable RAM (XDATA) ÿ Clock:

(main oscillator and watchdog can be configured to use external crystal oscillator)

9.83MHz internal RC oscillator

32KHz internal watchdog clock (input to watchdog after dividing by 4) ÿ Power supply/

power consumption:

Working voltage: 2.1V - 5.5V MCU core

works at full speed (9.83MHz), power consumption < 1mA (turn off ADC and other related external devices) set up)

ÿ Main peripherals:

--- 4-channel 8-bit low-precision ADC

--- 3-channel 24-bit high-precision ADC

--- Temperature sensor

--- Configurable reference source output (LDO output 1.5v, 2.0v, 2.5v)

1.2 Others: ÿ

Two 16-bit timer/counters ÿ 10

interrupt sources, 2-level priority ÿ A

set of UART ÿ 15-

bit watchdog-8K clock (32k internal RC, internal divided by 4) ÿ 2

channels of 8-bit pulse Wide modulation

(PWM) output ÿ IO can be configured in 4 working modes

4 high current drive IO ports ÿ

4T instruction cycle

1.3 Model and package

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|	FLASH	RAM	PACKAGE REMARK	
SDI5209AS	30KB	512B	SOP16	
SDI5209AD	30KB	512B	DIP16	
SDI5219AS	30KB	512B	SOP20	
SDI5219AD	30KB	512B	DIP20	
SDI5219TS	30KB	512B	SOP24	
SDI5220TSS	30KB	512B	SSOP28	

2-pin
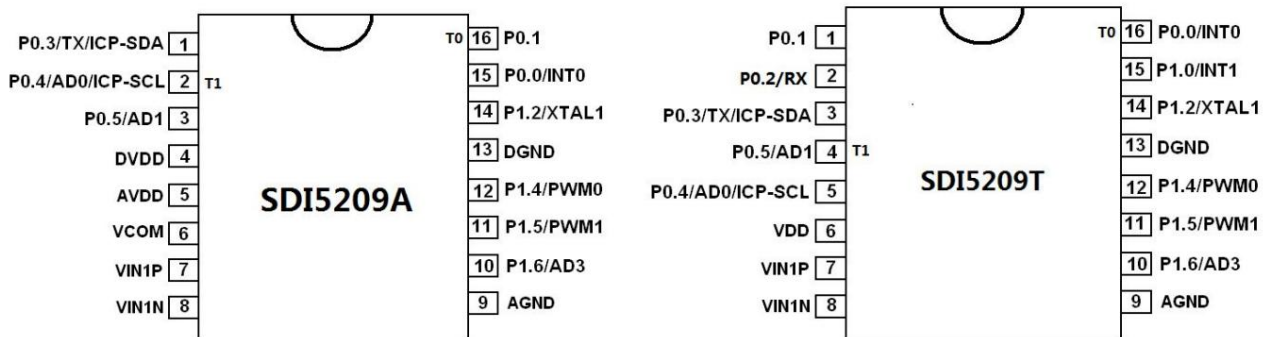
Figure 1: SDI5209A/T pin diagram
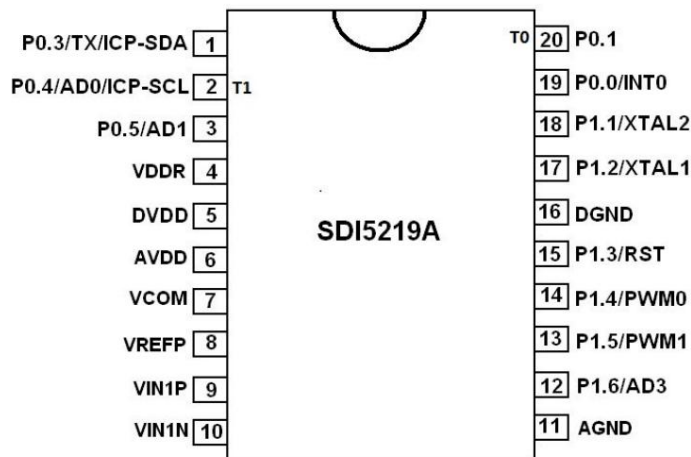
Figure 2: SDI5219A pin diagram

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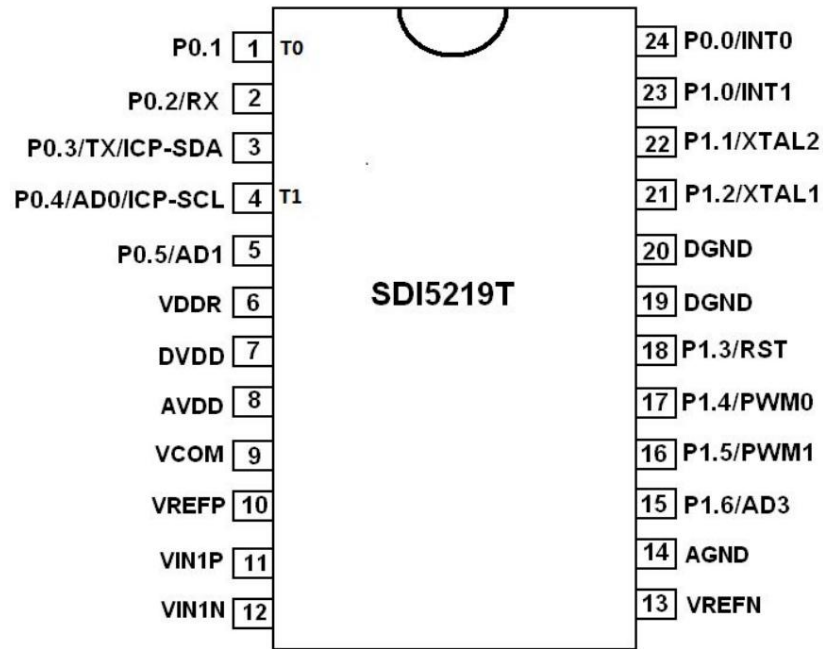
Figure 3: SDI5219T pin diagram
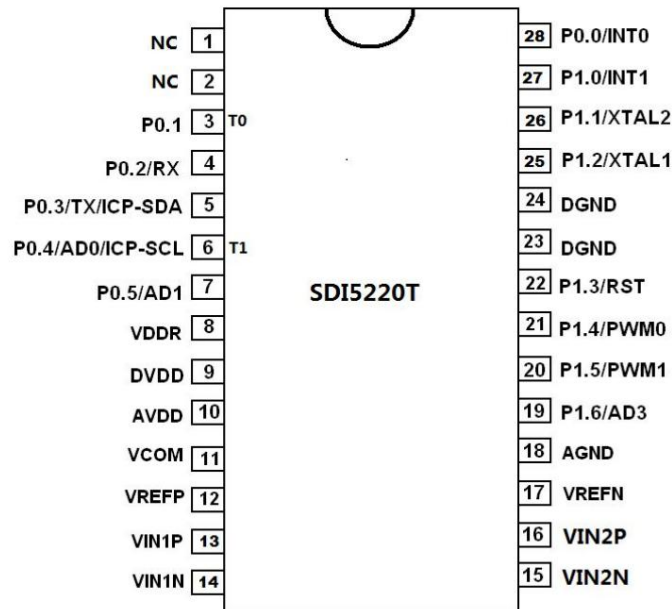
Figure 3.1: SDI5220T pin diagram

	Type description	
DVDD	P	digital power
DGND	P	digitally
AVDD	P	Analog power supply
AGND	P	Analogly
VDDR	P	Digital filter pin (connected to 0.1uF – 1uF capacitor)
P1.0 – P1.6 I/O General IO		
P0.0 -- P0.5 I/O ordinary IO		

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SOLIDIC   Datasheet   **5209/5219/5220**

P2.0 – P2.5	I/O	General IO	
		24-bit ADC related IO	
VCOM	O	Internal LDO output, configurable as: 1.5v\2.0v\2.5v\AVDD output	
VREFP	I	Positive reference voltage input (24-bit ADC)	
VREF	I	Negative reference voltage input (24-bit ADC) SDI5209A,SDI5219A This signal is internally connected to ground	
VIN1P	I	Differential input 1 channel: positive signal (multiplexed P2.0)	
VIN1N	I	Differential input 1 channel: negative terminal signal (multiplexed P2.1)	
VIN2P	I	Differential input 2 channels: positive signal (multiplexed P2.3)	
VIN2N	I	Differential input 2 channels: negative terminal signal (multiplexed P2.2)	
		Other multiplexed IO	
PWM0\PWM1		I/O pulse width modulation module output (multiplexing P1.5, P1.4)	
RST		I/O external reset pin (multiplexed P1.3)	
XTAL1\XTAL2		Connect to external crystal oscillator (reuse P1.1, P1.2)	
INT0		I/O external interrupt 0 (reuse P0.0)	
INT1		I/O external interrupt 1 (multiplexed P1.0)	
RX	I/O	UART receiving signal (multiplexing P0.2)	
Tx		I/O UART transmit signal (multiplexed P0.3)	
ICP-SDA		I/O online programming signal: data (reuse P0.3) (In order not to affect programming, please do not use a small resistor to pull it to ground)	
ICP-SCL	I/O	Online programming signal: clock (multiplexed P0.4) (In order not to affect programming, please do not use a small resistor to pull it to ground)	
AD0\AD1\AD3	I	3 inputs of 8-bit ADC (multiplexed: P0.4, P0.5, P1.6)	
T0\T1	I	Timer T0/T1 is used as an external counting pulse input terminal when used as a counter.	