



REAL TIME CLOCK IC

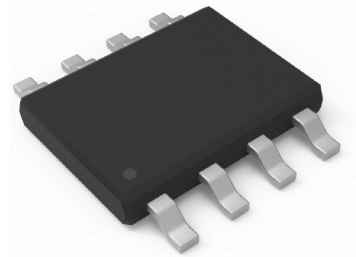
REAL TIME CLOCK IC (Built-in Crystal Oscillator)

High-precision

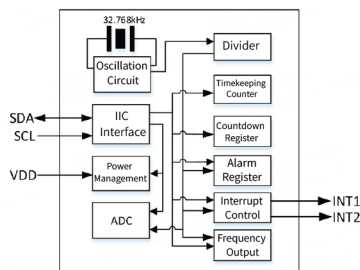


ST8810

- Low power consumption: 0.6μA typical (VDD =3.0V, Ta=25°C).
- Operating voltage: 1.5V~5.5V; Timekeeping : 1.5V~5.5V.
- Operating temperature: -40°C~+105°C.
- ROHS Recognized
- Standard IIC bus interface, maximum speed 400KHz (4.5V~5.5V).
- Chip pin ESD>4KV
- CMOS Process
- Package Form:SOP8.



Block diagram



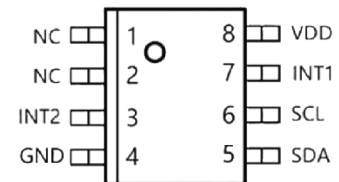
Overview

- Internal 70-byte general-purpose SRAM
- Built-in 3-byte alarm data registers
- Built-in IIC bus 0.5 seconds automatic reset function
- Built-in 1/1024 second register
- Built-in communication verification function
- Built-in clock data write-protection function

Pin Function

Pin	Name	Function	Feature
1, 2	NC	Not connected to internal chip circuitry	—
3	INT2	Interrupt output pin 2 for alarm	CMOS output
4	GND	Ground (GND)	—
5	SDA	Serial data input/output pin, this pin is usually pulled up to VDD with a resistor, and connected to other devices with open drain or open collector outputs via wire-AND logic.	Open-drain output / CMOS input
6	SCL	Serial clock input pin. Since signals are processed on the rising/falling edges of SCL, special attention should be paid to the rise/fall time of the SCL signal. The datasheet must be strictly followed. To reduce the rise time of SCL, the MCU port connected to SCL should be configured as CMOS output, not open-drain output.	CMOS input
7	INT1	Interrupt output pin 1 for alarm	Open-drain output
8	VDD	Positive power supply pin	1.5V ~ 5.5V

Terminal connection



DC Characteristics

Symbol	Parameter	Condition	Min Value	Typical Value	Max Value	Unit
V_{DD}	Main Supply Voltage		1.5		5.5	V
V_{keep}	Backup Voltage		1.5		5.5	V
I_{DD1}	Main Supply Current	$V_{DD} = 5V$		0.6	1.2	μA
		$V_{DD} = 3V$		0.5	1.0	μA
I_{DD2}	Supply Current during IIC Communication	$V_{DD} = 5V$		40	120	μA
I_{L1}	Input Leakage Current of SCL			100		nA
I_{LO}	Input/Output Leakage Current of SDA			100		nA
V_{OL}	Low-Level Output Voltage of INT / SDA	$V_{DD} = 5V$ $I_{OL} = 0.5mA$	0.1	0.2	0.3	V
V_{DDR}	VDD Rise Rate during Power-Up		0.1		1	V/ms