



REAL TIME CLOCK IC

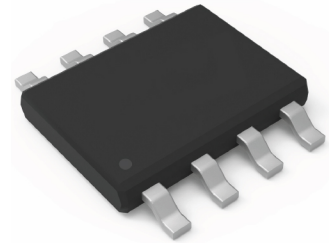
REAL TIME CLOCK IC (Built-in Crystal Oscillator)

High-precision

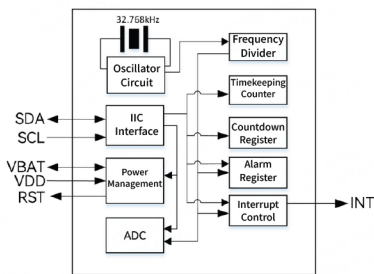


ST8832

- Low power consumption: 0.5µA typical (VDD =3.0V, Ta=25°C).
- Operating voltage: 1.8V ~ 5.5V; Timekeeping: 1.5V ~ 5.5V.
- Operating temperature: -40°C~+105°C.
- Standard IIC bus interface, maximum speed 400KHz (4.5V~5.5V).
- Chip pin ESD>4KV
- CMOS Process
- Package Form:SOP8.



Block diagram



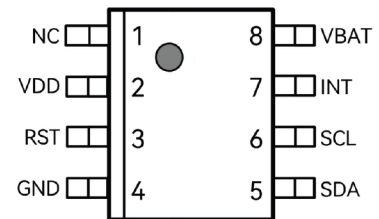
Overview

- Built-in 70-byte general-purpose SRAM
- high precision timing function in a wide temperature range: 25 °C < ± 5 ppm.
- 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	NC	Not connected internally to the chip	
2	VDD	Positive power supply pin	1.8V ~ 5.5V
3	RST	Reset output. monitors VDD voltage. When voltage is below threshold, outputs low immediately; when voltage exceeds threshold, delays 240ms (typical value) before outputting high.	CMOS output
4	GND	Power Supply 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 signal processing occurs on the rising/falling edges of SCL, special attention must be paid to the rise/fall times of the SCL signal. The MCU port connected to SCL should be set as CMOS output to reduce SCL rise time; do not configure it as open-drain output.	CMOS input
7	INT	Interrupt output pin for alarm	Open-drain output
8	VBAT	Backup battery input pin	1.5V ~ 5.5V. When not in use, connect to VDD or GND. Note : No charging function.

Terminal connection



DC Characteristics

Symbol	Parameter	Condition	Min	Typical	Max	Unit	Notes
V _{DD}	Supply Voltage		1.8		5.5	V	
V _{IO}	I/O Voltage		1.8		5.5	V	
V _{EEP}	Backup Voltage		1.5		5.5	V	
V _{TEMP}	Temperature Compensation Threshold Voltage			2.4		V	
V _{BAT}	Battery Supply Voltage		1.5		5.5	V	
I _{DD1}	Supply Current	V _{DD} = 5V V _{BAT} = 3V		8.4	18	µA	
I _{DD2}	Supply Current when IC is Active	V _{DD} = 5V		40	120	µA	
I _{BAT}	Battery Supply Current	V _{BAT} = 3V		0.5		µA	
I _{IL}	Input Leakage Current on SCL			100		nA	
I _{IO}	I/O Leakage Current on SDA			100		nA	
V _{BATHTS}	Hysteresis Voltage between V _{BAT} and V _{DD}			85		mV	
INT/SDA/ RST V _{OL}	Output Low Voltage	V _{DD} = 5V I _{OL} = 0.5mA	GND	0.2	GND+0.3	V	
t _{Delay}	Delay Time for RST to Go High when Supply Voltage Rises to V _{th}		140	240	280	ms	
V _{th}	Reset Output Voltage Threshold		2.89	2.93	2.97	V	