



REAL TIME CLOCK IC

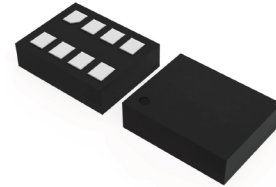
REAL TIME CLOCK IC (Built-in Crystal Oscillator)

High-precision

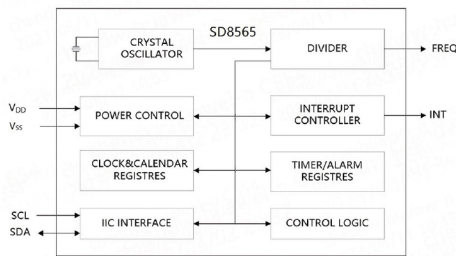


ST8565

- Low power consumption: 0.4 μ A typical ($V_{DD} = 3.0V, T_a = 25^\circ C$).
- Operating voltage: 1.5V~5.5V; Clock voltage: 1.0V~5.5V.
- Operating temperature: $-40^\circ C \sim +85^\circ C$.
- Built-in crystal, High accuracy: $\pm 2ppm$ at $25^\circ C$.
- ROHS Recognized
- Standard IIC bus interface, maximum speed 400KHz (4.5V~5.5V).
- Chip pin ESD>4KV
- CMOS Process
- Package Form: 2012(2.00mm \times 1.25mm \times 0.75mm).



Block diagram



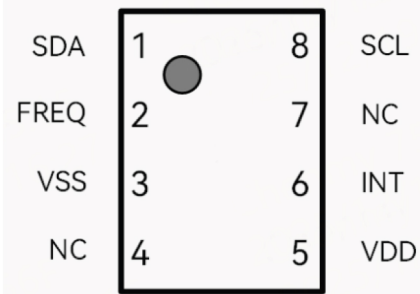
Overview

- Built-in a single timer/alarm interrupt output
- Periodic Frequency Interrupt Output Pin FREQ
- Built-in IIC bus 0.5 seconds automatic reset function
- Built-in 4-byte alarm registers for day, week, hour and minute.
- Auto-reload 8-bit countdown calculator
- Built-in clock data write-protection function
- Built-in power-on reset circuit
- Built-in power supply regulator

Pin Function

Pin	Name	Function	Characteristics
1	SDA	Serial Data Input/Output. This pin is the data input/output for the I2C serial interface. This open-drain pin requires an external pullup resistor. The pullup voltage can be up to 5.5V, regardless of the voltage on VCC.	N-Channel open output, CMOS input.
2	FREQ	Frequency output pin	N-Channel Open Output
3	VSS	Negative power (GND)	
4	NC	No Connected	
5	VDD	DC Power Pin for Primary Power Supply. This pin should be decoupled using a 0.1 μ F to 1.0 μ F capacitor.	1.5V to 5.5V
6	INT	Alarm interrupt output pin, according to the control register to set the mode of its operation, it can be disabled by rewriting the control register.	N-Channel Open Output
7	NC	No connected	
8	SCL	Serial Clock Input. This pin is the clock input for the I2C serial interface and is used to synchronize data movement on the serial interface. Up to 5.5V can be used for this pin, regardless of the voltage on VCC.	CMOS Input

Terminal connection



Characteristics

DC characteristics

SYMB	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT	NOTE
V_{DD}	Main Power Supply		1.5		5.5	V	
I_{DD1}	Supply Current	$V_{DD} = 5V$		0.6	1.0	μA	
		$V_{DD} = 3V$		0.4	0.8	μA	
I_{DD2}	Supply Current when IC Active	$V_{DD} = 5V$		40	120	μA	
I_{L1}	Input Leakage Current On SCL			100		nA	
I_{L0}	I/O Leakage Current On SDA			100		nA	
INT V_{OL}	Output Low Voltage	$V_{DD} = 5V$ $I_{OL} = 2mA$			0.4	V	
V_{DDR}	VDD rising rate when power reset		0.1		1	V/ms	

Frequency Error & Temperature Relationship Curve

