



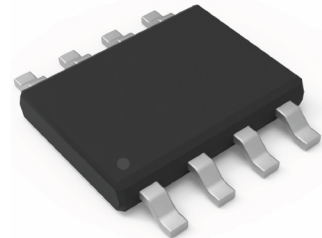
# REAL TIME CLOCK IC

## REAL TIME CLOCK IC (External Crystal Oscillator)

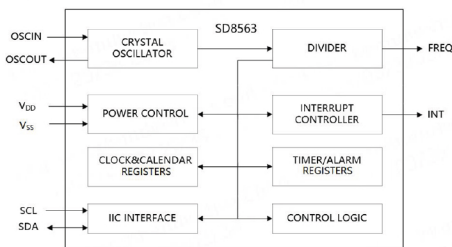


### ST8563

- Low power consumption: 0.45μA typical (VDD =3.0V, Ta=25°C).
- Operating voltage: 1.5V~5.5V; Clock voltage: 1.0V~5.5V.
- Operating temperature: -40°C~+85°C.
- Passed AEC-Q100 Certification
- Standard IIC bus interface, maximum speed 400KHz (4.5V~5.5V).
- Built-in IIC bus 0.5 seconds automatic reset function
- Chip pin ESD>4KV
- CMOS Process
- Package Form:SOP8/MSOP8/TSSOP8.



#### Block diagram



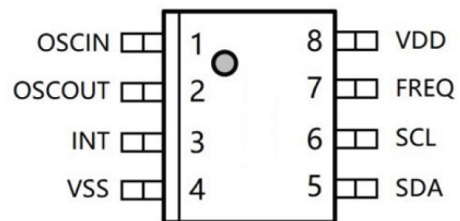
#### Overview

- Built-in a single timer/alarm interrupt output
- A separate frequency pulse output pin
- 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	OSCIN	Input of crystal oscillator	Oscillator input pins
2	OSCOUT	Output of crystal oscillator	Oscillator output pin
3	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 Drain, Output
4	VSS	Negative power (GND)	
5	SDA	Serial Data Input/Output. This pin is the data input/output for the IIC 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 Drain, CMOS input.
6	SCL	Serial Clock Input. This pin is the clock input for the IIC 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
7	FREQ	Frequency output pin	N-Channel Open Drain
8	VDD	DC Power Pin for Primary Power Supply.	1.5V~5.5V

#### Terminal connection



#### DC characteristics

##### • DC characteristics

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS	NOTES
VDD	Main Power Supply		1.5		5.5	V	
IDD1	Supply Current	VDD =5V		0.6	1.0	μA	
		VDD =3V		0.4	0.8	μA	
IDD2	Supply Current when IIC Active	VDD =5V		40	120	μA	
IL1	Input Leakage Current On SCL			100		nA	
IL0	I/O Leakage Current On SDA			100		nA	
INT VOL	Output Low Voltage	VDD =5V IOL =2mA			0.4	V	

##### • Frequency Error & Temperature Relationship Curve

