

Series C8563

**Real Time Clock**

**Applications:**

<p><i>Cash Registers</i></p> <p><i>Security Access Controllers, Door Controllers</i></p> <p><i>Time Recorders</i></p> <p><i>Public Phone Bill Meter, Smart Card Payphone</i></p>	<p><i>IC Water-Flow Meters</i></p> <p><i>IC Gas Meters</i></p> <p><i>Mobile Telephones</i></p>
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**Part Numbering Example: C8563– Z3C**

<b>C8563-</b>	<b>Z</b>	<b>3</b>	<b>C</b>
<b>SERIES</b>	<b>ADDED FEATURES</b>	<b>PACKAGE</b>	<b>OPERATING TEMP</b>
C8563	Z = Tapes & Reels	3 = DIP 4 = SOIC 5 = TSSOP	C = 0°C to +70°C I = -40°C to +85°C

**Specifications**

- Provides Year, Month, Day, Weekday, Hours, Minutes, and Seconds Information
- Century Flag
- Wide Operating Voltage: 1.8V to 5.5V
- Low Power Consumption: 0.25µA at VDD = 3.0V
- I<sup>2</sup>C-bus interface
- Programmable Clock Output (32.768 kHz, 1024 Hz, 32 Hz, and 1Hz)
- Alarm and Timer Functions
- Built-in Power Voltage Detecting Circuit
- I<sup>2</sup>C-bus Slave Address: Read A3H and write A2H
- Open-Drain Interrupt Pin

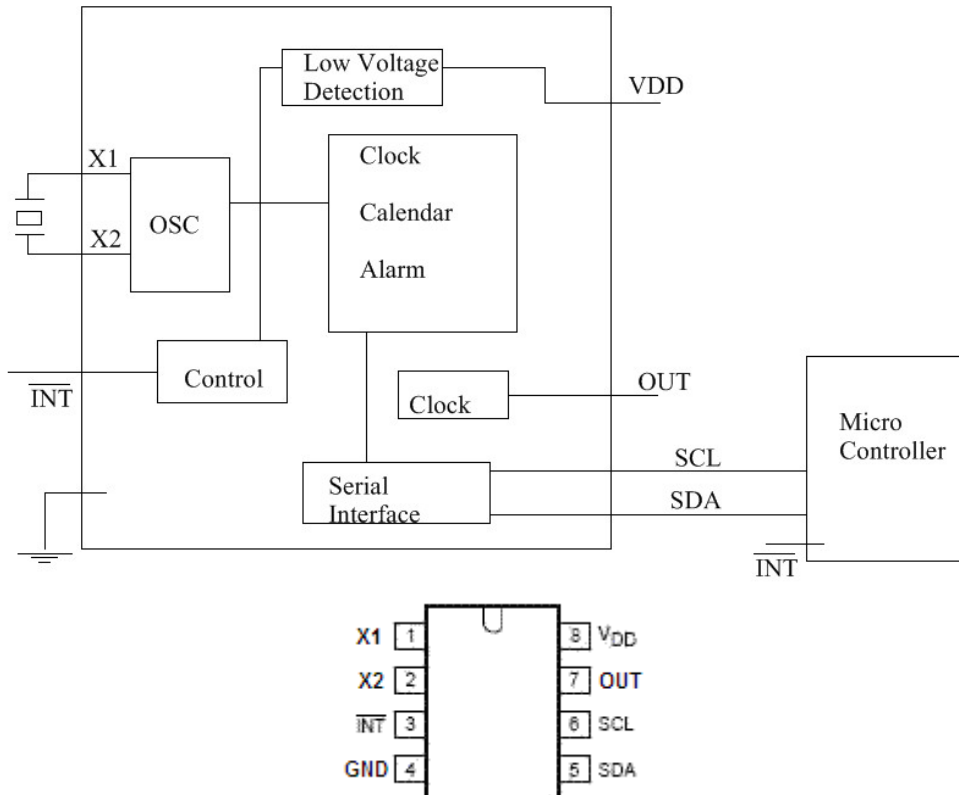
**General Description**

The C8563 is a CMOS real time clock/calendar, which provides a programmable clock output, a timer, an alarm, and a voltage-low detector. All address and data are transferred serially via I<sup>2</sup>C bus and the C8563 operates as a slave device on the serial bus. The built-in word address register is incremented automatically after each written or read data byte. The C8563 is designed to operate on very low power consumption.



**Real Time Clock**

**Block Diagram and Pin Description**



Pin	Symbol	Description	Pin	Symbol	Description
1	X1	Oscillator input	5	SDA	Serial data input and output
2	X2	Oscillator output	6	SCL	Serial clock input
3	$\overline{\text{INT}}$	Interrupt output (open-drain ; active LOW)	7	OUT	Clock output, open-drain
4	GND	ground	8	VDD	Positive supply voltage

**Absolute Maximum Ratings**

Parameter	Symbol	Min	Max	Unit
Supply Voltage	V <sub>DD</sub>	-0.5	+6.5	V
Supply Current	I <sub>DD</sub>	-0.5	+50	mA
Input Voltage on pins SCL and SDA	V <sub>I</sub>	-0.5	+6.5	V
Input Voltage on pin OSC1		-0.5	V <sub>DD</sub> +0.5	V
Output Voltage on OUT and $\overline{\text{INT}}$	V <sub>O</sub>	-0.5	+6.5	V
DC input current at any input	I <sub>I</sub>	-10	+10	mA
DC output current at any output	I <sub>O</sub>	-10	+10	mA
Total power dissipation	P		300	mW
Ambient temperature	T <sub>A</sub>	-40	+85	°C
Storage temperature	T <sub>S</sub>	-65	+150	°C

