Real Time Clock

Applications:

Cash Registers	*IC Water-Flow Meters*
Security Access Controllers, Door Controllers	*IC Gas Meters*
Time Recorders	*Mobile Telephones*
Public Phone Bill Meter, Smart Card Payphone	

RoHS COMPLIANT 2002 / 96 / EC

Part Numbering Example: C8563– Z3C

C8563-	Z	3	C
SERIES	**ADDED FEATURES**	**PACKAGE**	**OPERATING TEMP**
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^2C-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^2C-bus Slave Address: Read A3H and write A2H
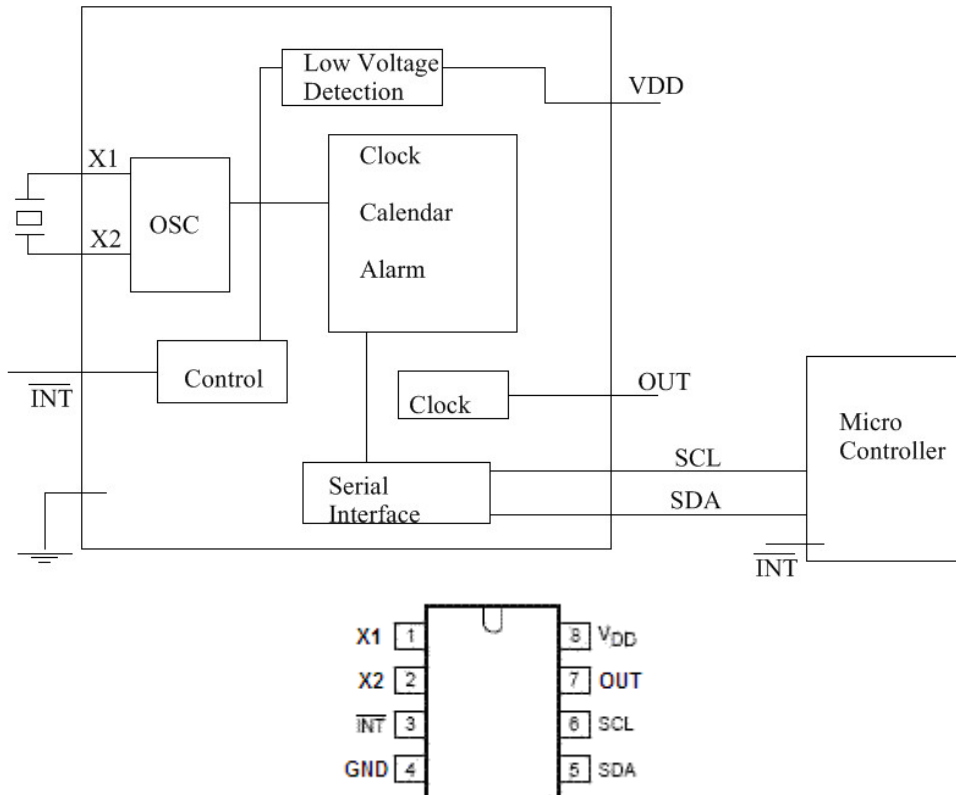- Open-Drain Interrupt Pin

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^2C 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.

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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	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_{DD}	-0.5	+6.5	V
Supply Current	I_{DD}	-0.5	+50	mA
Input Voltage on pins SCL and SDA	V_I	-0.5	+6.5	V
Input Voltage on pin OSCI		-0.5	V_{DD}+0.5	V
Output Voltage on OUT and $\overline{INT}$	V_O	-0.5	+6.5	V
DC input current at any input	I_I	-10	+10	mA
DC output current at any output	I_O	-10	+10	mA
Total power dissipation	P		300	mW
Ambient temperature	T_A	-40	+85	°C
Storage temperature	T_S	-65	+150	°C

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