

YSN1307 Realtime Clock Chip (I²C-BUS)



YSN1307Z(SOP-8)

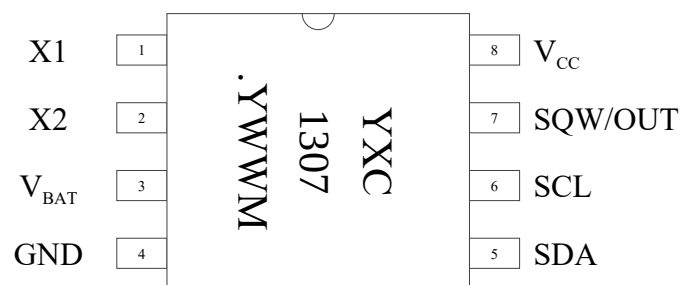
1 Features

- I²C serial bus interface
- 56 bytes of NVSRAM with battery backup
- Clocks seconds, minutes, hours, day, date, month, and year
- Automatic end-of-month and leap-year correction
- 24-hour or 12-hour format with AM/PM indicator
- Square-wave output: 1Hz, 4.096kHz, 8.192kHz, and 32.768kHz
- Automatic power-fail detection and switchover
- Low standby current: 200μA max at $V_{CC} = 5V$
- Battery-backed current below 500nA with the oscillator running
- I²C-bus slave address: 1101000
- Supply voltage 4.5 V to 5.5 V; V_{BAT} 2.0 V to 3.5 V
- Operating temperature: -40°C to +85°C

2 Description

The **YSN1307** is a low-power, binary-coded decimal (BCD) clock/calendar with 56 bytes of non-volatile SRAM (NVSRAM). Address and data are transferred serially through an I²C bus. It provides seconds, minutes, hours, day, date, month, and year, with automatic end-of-month and leap-year correction. A power-sense circuit switches to the backup supply when the primary supply fails.

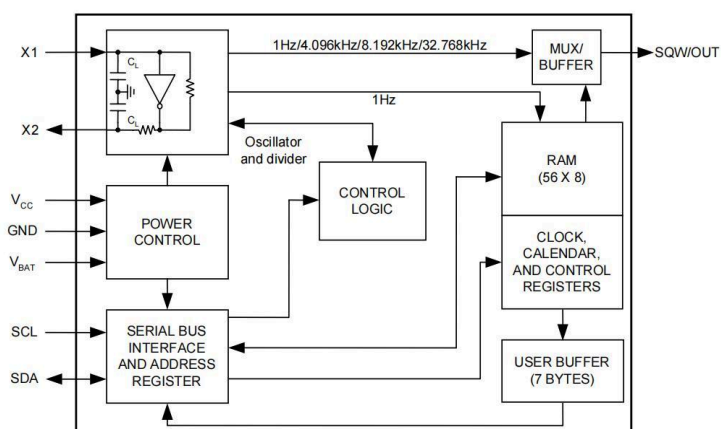
3 Pinning Information



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4 Block Diagram

Crystal 32.768KHZ (CL = 12.5pF)



5 Pin Description

SYMBOL	PIN	DESCRIPTION
X1	1	crystal input; may also be driven by an external oscillator
X2	2	crystal output; leave floating when X1 is driven externally
V_{BAT}	3	backup supply input; connect to GND if not used
GND	4	ground
SDA	5	serial data input and output; open-drain
SCL	6	serial clock input
SQW/OUT	7	square-wave output, open-drain
V_{CC}	8	primary supply voltage