

GX8563 Real-time clock/calendar

1 Features

- Provides year, month, day, weekday, hours, minutes, and seconds based on a 32.768 kHz quartz crystal
- Century flag
- Clock operating voltage: 1.0 V to 5.5 V at room temperature
- Low backup current; typical 0.25 μ A at $V_{DD} = 3.0$ V and $T_{amb} = 25$ °C
- 400 kHz two-wire I²C-bus interface (at $V_{DD} = 1.8$ V to 5.5 V)
- Programmable clock output for peripheral devices (32.768 kHz, 1.024 kHz, 32 Hz, and 1 Hz)
- Alarm and timer functions
- Integrated oscillator capacitor
- Internal Power-On Reset (POR)
- I²C-bus slave address: read A3h and write A2h
- Open-drain interrupt pin

2 Applications

- Mobile telephones
- Portable instruments
- Electronic metering
- Battery powered products

3 Description

The GX8563 is a CMOS Real-Time Clock (RTC) and calendar optimized for low power consumption. A programmable clock output, interrupt output, and voltage-low detector are also provided. All addresses and data are transferred serially via a two-line bidirectional I²C-bus. Maximum bus speed is 400 kbit/s. The register address is incremented automatically after each written or read data byte.

Version History

Version	Date	Description
V1.0	2023/1/31	Original version
V1.1	2023/2/4	Change format
V2.0	2023/3/4	Add SOP8 package
V2.1	2023/4/10	Change package picture
V2.2	2023/6/12	Change application circuit
V2.3	2023/6/15	Change application capacitor
V2.4	2024/8/22	Add MSL level
V2.5	2024/12/4	Update HBM V_{ESD}
V2.6	2025/4/29	Update dynamic characteristics

14 Ordering Information

Table 29. Ordering information

Purchase Number	Device	PIN-Package	SPQ	Remarks
GX8563U-T&R	GX8563U	MSOP8	4000	Tape & Reel
GX8563Z-T&R	GX8563Z	SOP8	4000	Tape & Reel