ACE5R363LA

Tiny Real-Time Clock/calendar with I²C-bus

Description

The ACE5R363LA is a CMOS Real-Time Clock (RTC) and calendar optimized for low power consumption. There is a timer inside including century, year, month, day, hour, minute, second, weekday, operate as a clock in circuit. It can set and read the current time stored in the ACE5R363LA to process the data accordingly It integrates a programmable Alarm function, an interrupt is generated when the current time coincides with the Alarm setting time and the corresponding interrupt condition is enabled. It contains a programmable clock output, an interrupt output, a voltage-low detector, an integrated oscillator caps, simplifies circuit, and applies to complex system. All address and data are transferred serially via I2C-bus. The slave address of the I2C-bus: 0xA3 (read data), 0xA2 (write data). Maximum bus speed is 400 Kbit/s, the register address is incremented automatically after each written or read data byte.

Features

- Clock operating voltage: 0.9V-5.5V
- Low current: 0.4μA(@3.3V)
- 400 kHz two-line I²C-bus interface
- Century flag
- Calendar dates 2000-2199
- Programmable clock output for peripheral devices (32768Hz, 1024Hz, 32Hz, 1Hz)
- Integrated oscillator capacitor
- Alarm and timer functions
- Voltage-low detection
- Open-drain interrupt pin
- SOP-8, TSSOP-8, MSOP-8 Packages

Application

- Mobile equipment
- Portable instruments
- Battery powered devices
- Access Control System
- Electricity/ water/ gas meter

Limiting Values

Exceeding the limits listed below can cause permanent damage to the device.

Symbol	Description	Min	Max	Unit
V_{DD}	Supply Voltage	-0.5	6.5	V
I_{DD}	Supply Current	-50	50	mA
V_I	Input Voltage on Pins OSCI, SCL and SDA	-0.5	6.5	V
V_O	Output Voltage on Pins CLKOUT and INT#	-0.5	6.5	V
I_I	Input Current at Any Input	-10	10	mA
I_O	Output Current at Any Output	-10	10	mA
P_{TOT}	Total Power Dissipation		300	mW
T_{AMB}	Ambient Temperature	-40	85	°C
T_{STG}	Storage Temperature	-65	150	°C

Ordering Information

ACE5R363LA XX + X H

- Halogen - free
- U: Tube
  T: Tape and Reel
- Pb - free
- FM: SOP-8
  TM: TSSOP-8
  OM: MSOP-8

Notes

ACE does not assume any responsibility for use as critical components in life support devices or systems without the express written approval of the president and general counsel of ACE Technology Co., LTD. As sued herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, and shoes failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury to the user.
2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.