ACE5372
Low Power Real-Time Clock (RTC)

Description

The ACE5372 is a CMOS type real-time clock, which is connected to the CPU via two wires and capable of serial transmission of clock to the CPU. The ACE5372 can generate various periodic interrupt clock pulses lasting for long period (one month), and alarm interrupt can be made by two incorporated systems. Since an oscillation circuit is driven at a constant voltage, it undergoes fluctuations of few voltages and consequently offers low current consumption (TYP. 400nA @ 5V)

It also provides an oscillator halt sensing function applicable for data validation at power-on and other occasions. The product also incorporates a time trimming circuit that adjusts the clock with higher precision by adjusting any errors in crystal oscillator frequencies based on signals from the CPU. The crystal oscillator may be selected from 32KHz or 32.768KHz types.

Features

- Lowest supply current: 400nA TYP. @ 5V
- Connected to the CPU via only 2-wires (MAX. 100KHz)
- A clock counter (counting hours, minutes, and seconds) and a calendar counter (counting leap years, years, months, days, and days of the week) in BCD codes
- Two systems output providing interrupt to the CPU output (period of one month to one second, interrupt halt function)
- Two systems output of alarm functions
- Oscillation halt sensing to judge internal data validity
- Clock output of 32.768KHz (32KHz) (output controllable via a register)
- Second digit adjustment by 30 seconds
- Automatic leap year recognition up to the year 2099
- 12-hour or 24-hour time display selectable
- High precision time trimming circuit
- Oscillator of 32.768KHz or 32KHz may be used
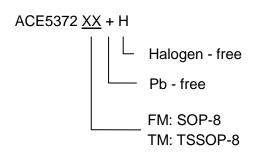- CMOS logic

Absolute Maximum Ratings

Symbol	Item	Conditions	Ratings	Unit
VDD	Supply Voltage		-0.3 to 7.0	V
VI	Input Voltage	SCL，SDA	-0.3 to 7.0	V
VO1	Output Voltage 1	SDA	-0.3 to 7.0	V
VO2	Output Voltage 2	INTRA, INTRB	-0.3 to 12.0	V
TOPT	Operating Temperature		-40 to 85	℃
TSTG	Storage Temperature		-55 to 125	℃

Ordering information

ACE5372 <u>XX</u> + H

      └── Halogen - free

    └───── Pb - free

     FM: SOP-8
     TM: TSSOP-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.

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