

# Real Time Clock (RTC)

Real time clock (RTC) is an integrated circuit chip that provides precise time for electronic products or electronic systems.

## Key Features

- RTC built-in 32.768KHz crystal. Its maximum accuracy is  $\pm 2$ ppm. It supports I2C interface communication, calendar (year, month, week, day, hour, minute, second, 1 / 16 second), automatic leap year adjustment, backup battery, automatic power switching, wake-up interrupt, timer, frequency output and other functions.

## Applications

- Security monitoring: IPC, DVR, NVR, smart door lock, access control system etc.
- Consumer electronics: notebook, pad, PC etc.
- Communication network: base station, switch etc.
- Automotive electronics: T-box, IPC, taxi meter, DVR, automobile instrument etc.
- Meter: electricity meter, water meter, gas meter etc.
- Smart home: HEMS home energy management system, smart temperature controller, sweeping robot, water heater, smart socket etc.
- Automatic industrial control: mechanical arm, PLC motor servo, HMI, servo controller etc.
- Medical / office equipment / test and measurement: oximeter, medical monitor, endoscope, attendance machine, MFP etc.

## Vehicle grade

Type	Crystal + temp. compensation	High stability	Consumption ( $\mu$ A)	Dimension (mm)	Power support backup
INS5A8900	Y+Y	$\pm 5.0$ ppm@-40°C ~ +85°C Ext. +80°C ~ +105°C	1.5	3.2*2.5*1.0	Y

INS5A8804	Y+Y	±5.0ppm@-40°C ~ +85°C Ext. +80°C ~ +105°C	1.5	3.2*2.5*1.0	Y
INS5A4803	Y+Y	±5.0ppm@-40°C ~ +85°C Ext. +80°C ~ +105°C	1.2	SOP14	N

### Ultra-high precision

Type	Crystal + temp. compensation	High stability	Consumption (µA)	Dimension (mm)	Power support backup
INS5902A	Y+Y	±2.0ppm@-40°C ~ +85°C Ext. -50°C ~ +85°C	1.5	3.2*2.5*1.0	Y
INS5699C	Y+Y	±3.4ppm@-40°C ~ +85°C	1.0	3.2*2.5*1.0	Y
INS5699S	Y+Y	±5.0ppm@-40°C ~ +85°C	1.0	3.2*2.5*1.0	Y
INS5T8025	Y+Y	±3.4ppm@-40°C ~ +85°C	1.2	SOP14	N

### High precision

Type	Crystal + temp. compensation	High stability	Consumption (µA)	Dimension (mm)	Power support backup
INS5710B	Y+N	±5ppm(25°C) Temp. -40°C ~ +85°C	0.5	SOP8	N
INS5710C	Y+Y	±20ppm@-20°C ~ +70°C	1.0	SOP8	N
INS5830X	Y+N	±5ppm(25°C) Temp. -40°C ~ +85°C	0.5	SOP8	Y

### Separate

Type	Crystal + temp. compensation	High stability	Consumption (µA)	Package (mm)	Power support backup
INS5101A	N	±20ppm(25°C) Temp. -40°C ~ +85°C	0.5	SOP8	N
INS58563	N	±20ppm(25°C) Temp. -40°C ~ +85°C	0.9	SOP8	N

Quick start, anti vibration, wide temperature range

Type	Build-in Silicon OSC	High stability	Consumption ( $\mu$ A)	Package (mm)	Power support backup
INS5S8563	Y	$\pm 100\text{ppm}@-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$ $\pm 200\text{ppm}@-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$	1.0	SOP8 DFN6 (1.2*1.2*0.55mm)	N