

ARTC3000A-HAS-PF



RTC module, I²C -Bus interface, 3.7 x 2.5 x 0.9mm

Features:

- Miniature SMT package
- Extremely accurate temperature Compensated RTC
- Automotive qualified, according to AEC-Q200 options
- ± 6ppm max (± 0.52 s/day) over -40°C to +85°C



Description:

The RTC is an ultra miniature Real-Time-Clock Module with embedded Crystal. This RTC has an I²C Bus (2-wire Serial Interface) and offers temperature compensated time. The STC-Smart Temperature Compensation is calibrated in the factory and leads to a very high time-accuracy of ± 6ppm from -40°C to +85°C

Beside standard RTC functions, it includes a Backup-Battery Input with internal switchover function, a programmable Trickle-charge circuitry, an integrated Temperature Sensor with digital-output and offers 8 Bytes RAM and 2 Bytes EEPROM for customer's application.

The calendar function tracks year and leap -year flags. The clock tracks second, minute and hour in 24-hour format. Programmable alarm setting and universal timer functions increase flexibility.

Electrical characteristics at 25°C

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test condition
Supply voltage	V _{DD}	1.3		5.5	V	Time keeping
Supply voltage	V _{DD}	1.8		5.5	V	Temp. Comp.
Current consumption	I _{DDO}		800	1000	nA	V _{DD} = 3V
CLKOUT frequency		32.768/1024/32/1			Hz	Programmable
Frequency tolerance	ΔF/F		±10	±20	ppm	@ 25°C
Aging first year max.	ΔF/F	±3			ppm	@ 25°C
Frequency vs. temp.	ΔF/F ₀	-0.035 ppm/°C ² (T-To) ² ± 10%			ppm	20 ≤ To ≤ 30
Time accuracy	Δt/t			± 0.26	s/day	@ 25°C
				± 0.52	s/day	-40 to +85°C

Environmental characteristics

Storage temp. Range	-55 to +125	°C	
TA operating temp. range	-40 to +85	°C	
Shock resistance	Max ±5.0	ppm	5000 g, 0.3ms, ½ sine
Vibration resistance	Max ±5.0	ppm	20 g/10-2000Hz

Other information

Package-type	SON 10-pin		
Termination	For SMD mounting Au plated pads		
Processing	Reflow soldering 260°C / 20 s max		
Packaging (tape and reel)	1kpcs/reel, 3kpcs/reel		

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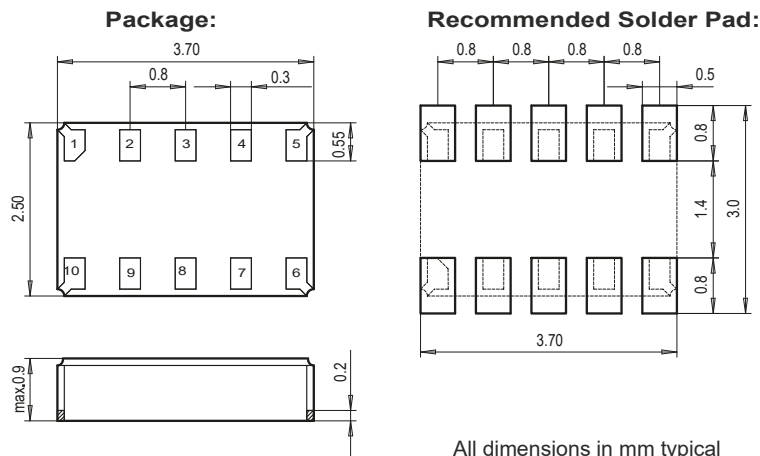
Specifications subject to change without notification

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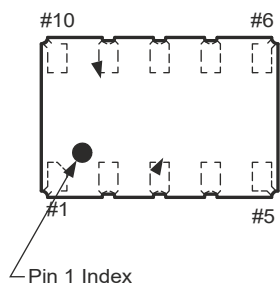
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Mechanical dimensions and Pin functions

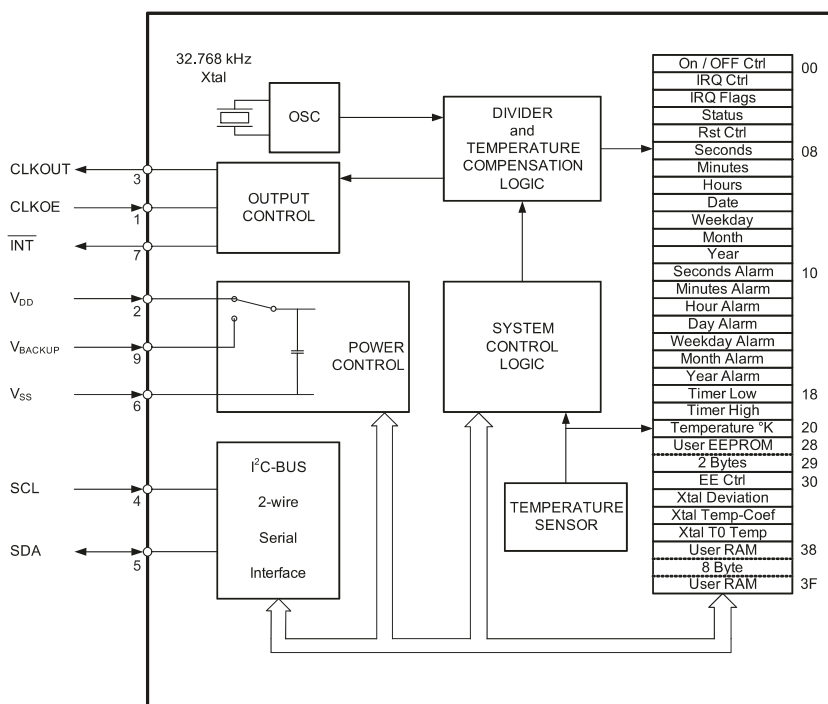


All dimensions in mm typical



Pin	Connection
1	CLKOE CLK Output Enable
2	V _{DD} Supply Voltage
3	CLKOUT Clock Output
4	SCL Serial Clock Input
5	SDA Serial Data
6	V _{SS} Ground
7	INT Interrupt Output
8	N.C. not connected
9	V _{BACKUP} Backup Supply Voltage
10	N.C. not connected

Block diagram



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RTC module, 3.7 x 2.5 x 0.9mm



Drawing control: (Internal use only)
Commodity code: 9110 9000
Issue number : N1
Date : 01/06/2018
Internal reference : M1

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