

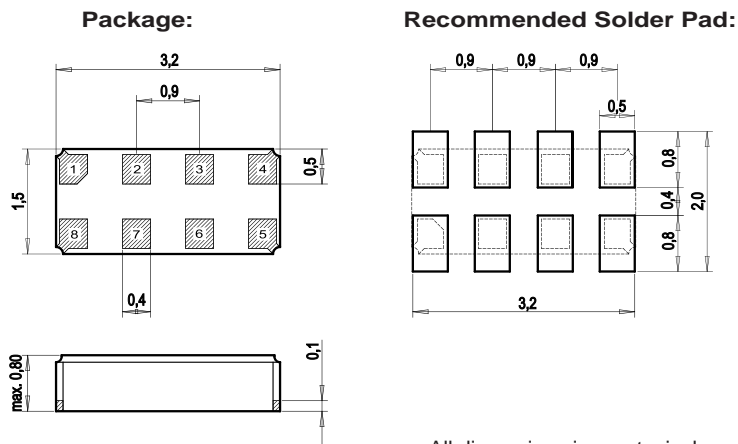
# RV-8803-C7

Real Time Clock Module with I<sup>2</sup>C-Bus



100% leadfree, RoHS - compliant

## DIMENSIONS



**Extremely Accurate RTC Module with embedded Quartz Crystal.**  
**Ultra Low Power consumption**  
**I<sup>2</sup>C Interface**  
**Automotive qualified, according to AEC-Q200 Rev. C**

### Temperature Compensation:

Temperature	Time Deviation
0°C to +50°C	± 0.13 s/day ± 1.5 ppm
-40°C to +85°C	± 0.26 s/day ± 3.0 ppm

**Lowest current consumption & smallest temperature compensated RTC Module!**

## DESCRIPTION:

The RV-8803-C7 is an high accuracy, ultra low power Real-Time-Clock Module with embedded 32.768 kHz Crystal.

High accuracy, high stability is achieved by factory calibrated, temperature compensated DTCXO and results to time-accuracy of ± 3.0 ppm across the temperature range from -40°C to +85°C.

Standard Clock & Calendar function tracks second, minute, hour in 24-hour format, year and leap-year flags. Beside standard RTC function like Timer & Alarm, it includes integrated Temperature Sensor, Time Stamp Event Input and User RAM and offers I<sup>2</sup>C-bus (2-wire Interface).

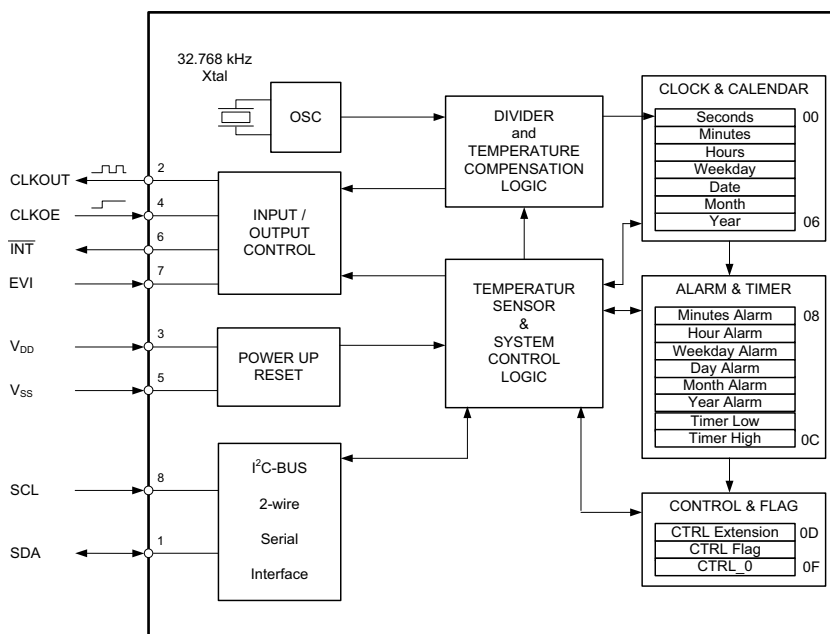
RV-8803-C7 is the smallest and offers the lowest current consumption among all temperature compensated RTC modules.

For pick-and-place equipment, the parts are available in 12 mm tape:

7" (178 mm) reel with 1'000 parts

7" (178 mm) reel with 3'000 parts

## BLOCKDIAGRAM:



## ELECTRICAL CHARACTERISTICS AT 25°C:

	Symbol	Condition	Min.	Typ.	Max	Unit
Supply voltage	$V_{DD}$	Time keeping	1.5		5.5	V
Supply voltage	$V_{DD}$	Temp. comp.	1.5		5.5	V
Current consumption	$I_{DDO}$	$V_{DD} = 3V$		240	400	nA
CLKOUT frequency	$F_{CLKOUT}$	programmable	32768 / 1024 / 1			Hz
Freq. Tol: 1 Hz	$\Delta F/F$	-40 to +85°C		0	± 3	ppm
Freq. Tol: 32768 Hz	$\Delta F/F_{TOPR}$	@ 25°C		± 10	± 20	ppm
Freq.vs.Temp.	$\Delta F/F_{TOPR}$	-40 to +85°C	$-0.035 \text{ ppm}/^{\circ}\text{C} \times (T - T_0)^2 \pm 10\%$			ppm
Aging first year	$\Delta F/F$	@ 25°C			± 3	ppm
Time accuracy Temperature Compensated	$\Delta t/t$	0 to +50°C			±0.13	s/day
					±1.5	ppm
		-40 to +85°C			±0.26	s/day
					±3.0	ppm

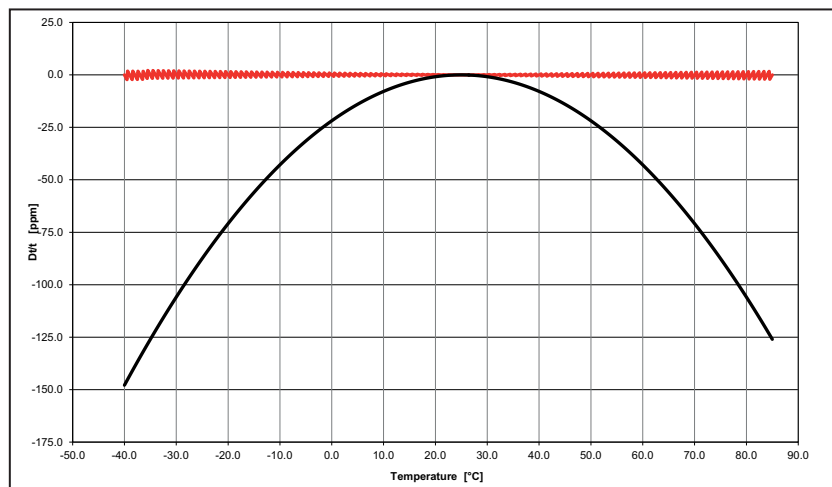
## ENVIRONMENTAL CHARACTERISTICS:

		Conditions	Max. Dev.
Storage temp. range		-55 to +125°C	
Operating temperature range		-40 to +85°C	
Shock resistance	$\Delta F/F$	5000 g, 0.3 ms, 1/2 sine	± 5 ppm
Vibration resistance	$\Delta F/F$	20 g / 10–2000 Hz	± 5 ppm

## PACKAGE, TERMINATIONS AND PROCESSING:

Package-Type	Termination	Processing
SON 8-pin	For SMD mounting Au plated pads	Reflow soldering 260°C/20 s max.

## FREQUENCY TEMPERATURE CHARACTERISTICS:



## PIN CONNECTIONS TOP VIEW:

<p>Production Date Code: #8</p> <p>Pin 1 Index: #1</p> <p>Part Designation: M-303-A 1</p> <p>8803</p>		<b>Pin</b>	<b>Connection</b>
		1	SDA Serial Data
		2	CLKOUT Clock Output
		3	$V_{DD}$ Supply Voltage
		4	CLKOE Clock Output Enable
		5	$V_{SS}$ Ground
		6	INT Interrupt Output
		7	EVI Event Input
		8	SCL Serial Clock Input

All specifications subject to change without notice.



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