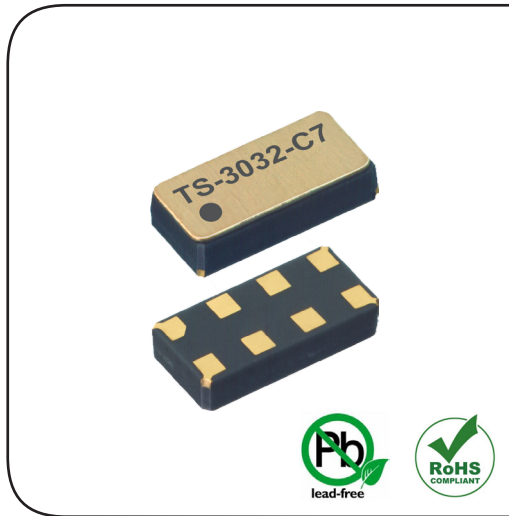
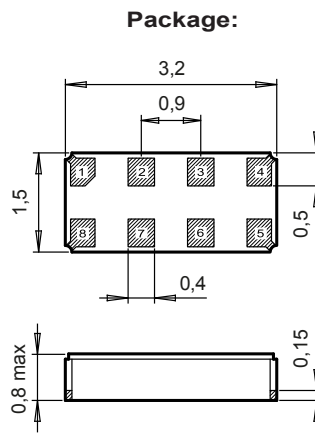


TS-3032-C7

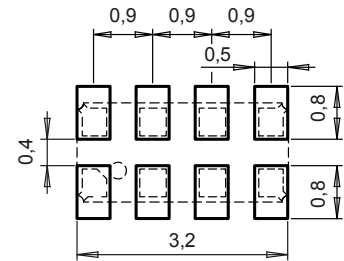
Temperature Sensor Module with RTC



DIMENSIONS



Recommended Solder Pad:



Metal lid is connected to V_{SS} (pin #5)

All dimensions in mm typical

APPLICATIONS

- Metering
- Wearables
- Computer fan
- Cold chain integrity
- Battery management
- Predictive Maintenance
- Board Mount Temperature Sensor
- HVAC (Heating, Ventilation & Air Con.)

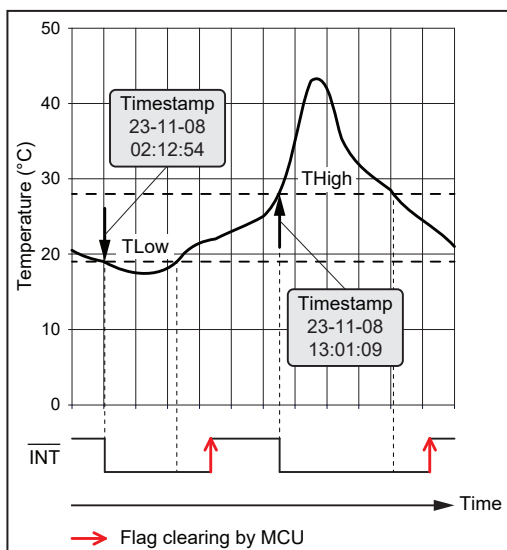
DESCRIPTION

The TS-3032-C7 is an Ultra-Low Power Digital Temperature Sensor Module. It combines a 12-bit Temperature Sensor with a Real-Time Clock IC and an embedded XTAL in a miniature SMD ceramic package.

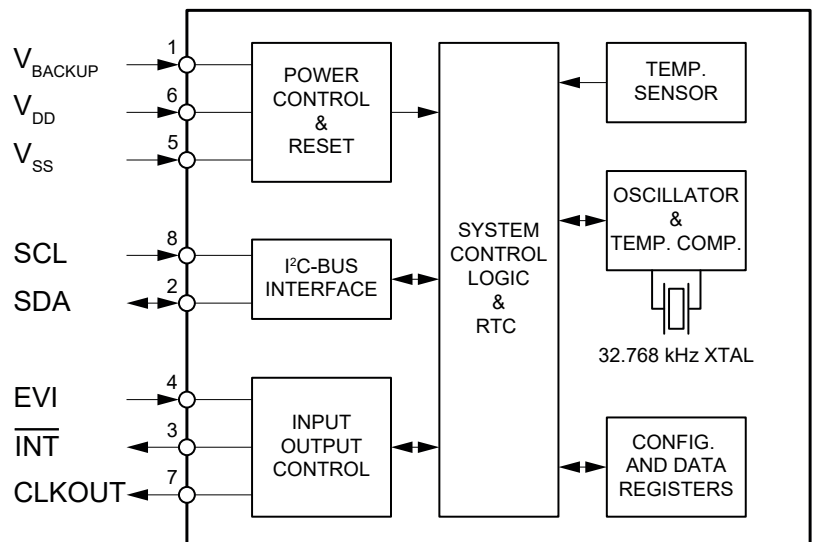
BENEFITS AND FEATURES

- Temperature accuracy: $\pm 1^{\circ}\text{C}$ (max.) from -40°C to $+85^{\circ}\text{C}$
- Ultra-low average power consumption: 160 nA @ 3 V (1 Hz sampling)
- Readable resolution: 0.0625 $^{\circ}\text{C}$
- Offset fine adjustment with 16-bit value
- NIST traceability
- Programmable Temperature Alert Limits with High/Low Thresholds, associated Interrupts and Timestamps
- Temperature compensated Real-Time Clock: ± 2.5 ppm
- Automatic Backup Switchover
- Wide operating voltage range: 1.3 V to 5.5 V
- I²C-bus interface: 400 kHz
- 100% Pb-free, RoHS-compliant
- Automotive qualification according to AEC-Q200 available

APPLICATION EXAMPLE



BLOCK DIAGRAM



ELECTRICAL CHARACTERISTICS

More detailed information can be found in the Application Manual.

	Symbol	Condition	Min.	Typ.	Max	Unit
Supply voltage	V_{DD}	Temp. comp.	1.3		5.5	V
Average current consumption Time keeping mode ¹⁾	I_{DDO}	V_{DD} 3 V, +25°C		160	210	nA
		V_{DD} 3 V, +85°C			750	
		V_{DD} 3 V, +105°C			1400	
12-bit Temperature Sensor accuracy	ΔT	-40 to +85°C	±1			°C
		+85 to +105°C	±4			

1) I²C-bus inactive, CLKOUT disabled (automatic temperature sampling (1 Hz) active).

ENVIRONMENTAL CHARACTERISTICS

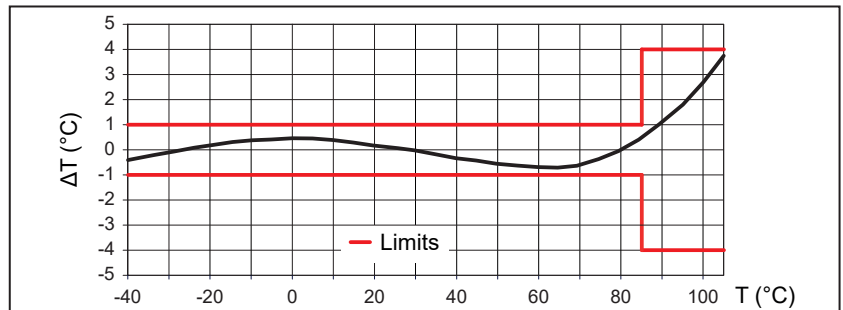
	Conditions
Storage temperature range	-55 to +125°C
TA Operating temperature range	-40 to +85°C ¹⁾

1) Supports extended range from +85°C to +105°C.

TERMINATIONS AND PROCESSING

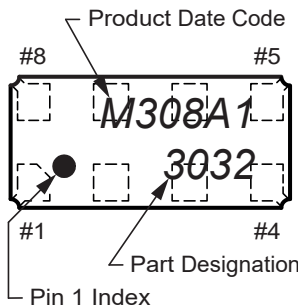
Package	Termination	Processing
SON-8	Au flashed pads	IPC/JEDEC J-STD-020C 260°C / 20 - 40 s

TEMPERATURE SENSOR ACCURACY



PIN CONNECTIONS TOP VIEW

Pin	Connection
1	V_{BACKUP} Backup Supply Voltage
2	SDA Serial Data
3	\overline{INT} Interrupt Output
4	EVI Event Input
5	V_{SS} Ground
6	V_{DD} Power Supply Voltage
7	CLKOUT Clock Output
8	SCL Serial Clock Input



ORDERING INFORMATION

TS - 3032 - C7	TA	QC
T-Sensor module		Qualification
Product type		QC = Commercial Grade (Standard) QA = Automotive Grade AEC-Q200
Package size		Temperature range
C7 = 3.2 x 1.5 x 0.8 mm		TA = -40 to +85°C (Standard) (supports extended range from +85°C to +105°C)
A unique part number will be generated for each product specification, i.e:		
20xxxx-MG01	1'000 pcs (in 12 mm tape on 7" reel)	
20xxxx-MG03	3'000 pcs (in 12 mm tape on 7" reel)	

All specifications subject to change without notice.



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