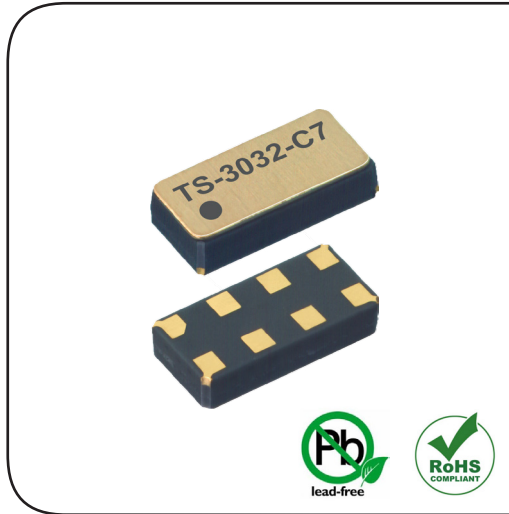
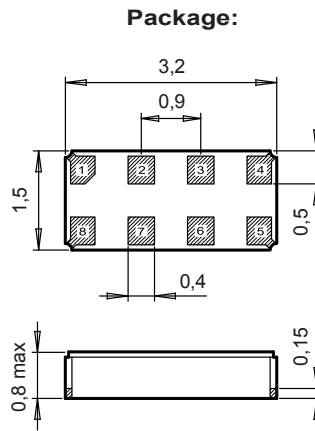


TS-3032-C7

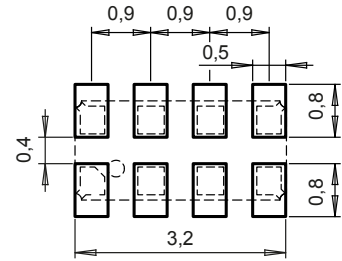
Temperature Sensor Module with RTC



DIMENSIONS



Recommended Solder Pad:



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

All dimensions in mm typical

APPLICATIONS

Metering
Automotive
IoT Cold Chain
RTD Replacement
Wearables, Portables
Precision Temperature Monitoring

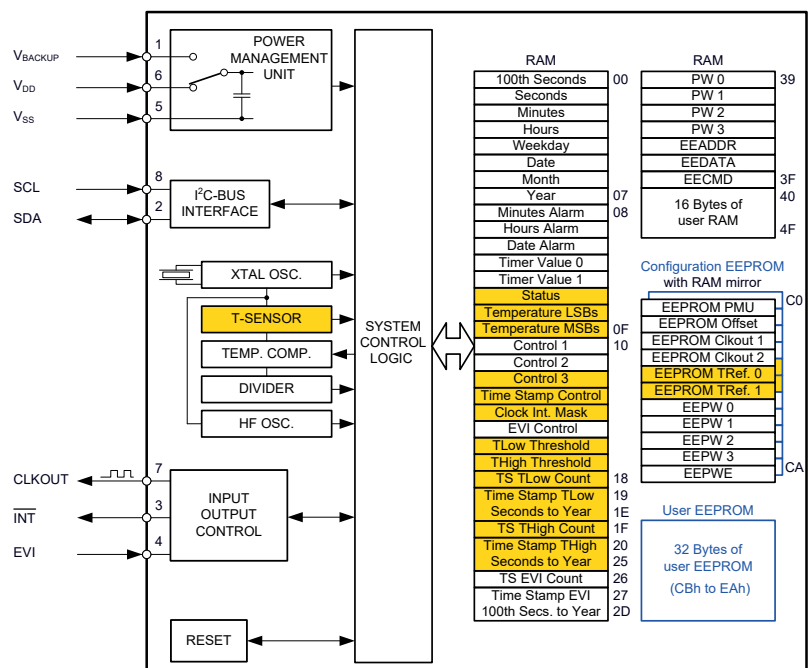
DESCRIPTION

The TS-3032-C7 is an SMD Digital Temperature Sensor Module with full RTC functions with an embedded XTAL. It operates under vacuum in a hermetically sealed ceramic package with metal lid.

FEATURES

- 12-bit Temperature Sensor
- Programmable threshold alarms and timestamps
- Accuracy: $\pm 1^\circ\text{C}$ from -40°C to $+85^\circ\text{C}$
- Readable resolution: 0.0625°C
- Temperature compensated Real-Time Clock: ± 2.5 ppm
- Ultra low power consumption: 160 nA @ 3 V
- Wide operating voltage range: 1.3 V to 5.5 V
- User programmable Password for write protection
- Automatic Backup Switchover
- Timer, Alarm and External Event functions
- I²C-bus interface: 400 kHz
- 100% Pb-free, RoHS-compliant
- Automotive qualification according to AEC-Q200 available

BLOCK DIAGRAM



ELECTRICAL CHARACTERISTICS AT 25°C

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
Current consumption Time keeping mode	I_{DDO}	I ² C-bus inactive, $V_{DD} = 3\text{ V}$		160	210	nA
12-bit Temperature Sensor accuracy	ΔT	-40 to +85°C	±1			°C
Readable resolution	ΔT	-40 to +105°C	0.0625			°C

ENVIRONMENTAL CHARACTERISTICS

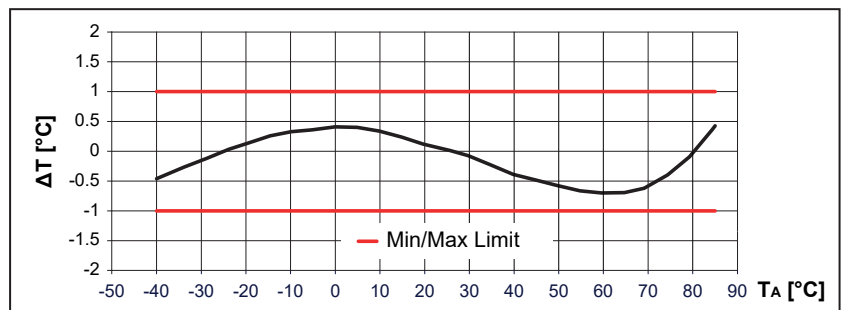
		Conditions	Max. Dev.
Storage temperature range		-55 to +125°C	
TA Operating temperature range		-40 to +85°C ¹⁾	
Crystal shock resistance	$\Delta F/F$	5000 g, 0.3 ms, ½ sine	±5 ppm
Crystal vibration resistance	$\Delta F/F$	20 g / 10–2000 Hz	±5 ppm

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

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

Product Date Code: #8, #5
Part Designation: M308A1, 3032
Pin 1 Index: #1, #4

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 with limitations)
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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[TS-3032-C7-TA-QA](#) [TS-3032-C7-TA-QC](#)