



AMANDA

The world in your hands



AutonoMous self powered miniAturized iNtelligent sensor for environmental sensing andD asset tracking in smArT IoT environments



Microdul Inside

- MS8892 Ultra-low-power capacitive sensor 65nA used for wake-up
- MS1089 Ultra-low-power temperature sensor with “zero” standby current

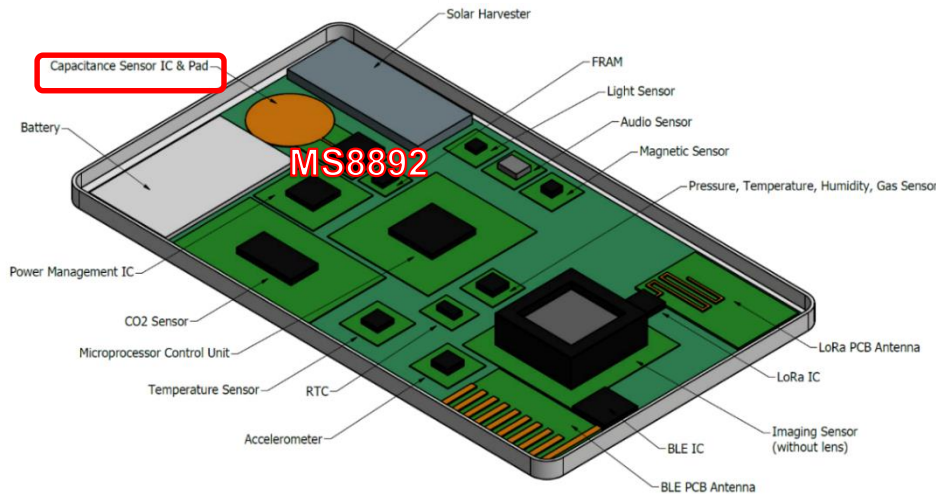
Use cases

- Autonomous, connected sensor card
- Ultra-low-power, ultra long life – 10 years
- Solid state battery, no battery change required
- Small and thin (3mm thickness)
- Multi-sensor (see below)
- Indoor / outdoor environmental sensing
- Occupancy monitoring (e.g. parking slots)
- Assets and goods tracking
- Sensing for room comfort and control

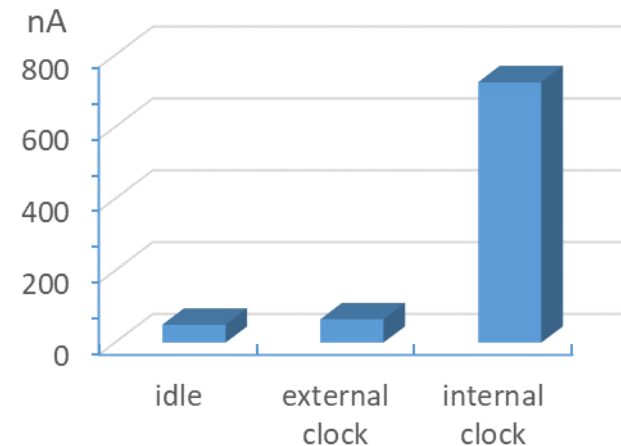
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Save power, wake-up with MS8892



MS8892 Cap-Sensor Current



MS8892

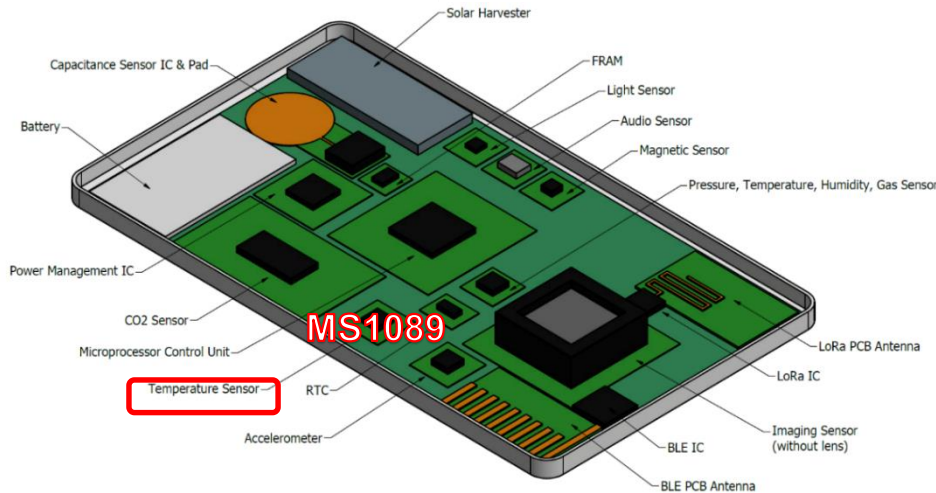
- 65nA external clock, 725nA internal clock
- Capacitance measurement or switch mode
- Automatically compensates factory tolerances
- Measures up to 1pF, voltage range 1.8-4.5V
- Autonomous operation or I²C with MCU



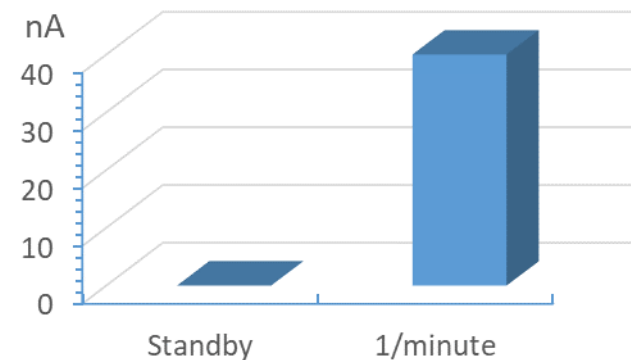
Small

- QFN 3x3mm
- CSP 1.52 x 1.03mm

Temperature sensor “Zero Standby” MS1089

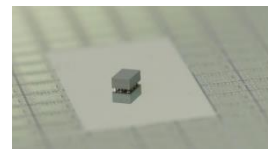
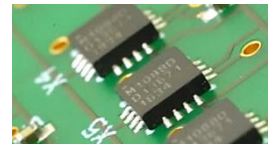


MS1089 Temp-Sensor Current



MS1089

- “Zero standby” current in sleep mode
- Average 40nA at one measurement per minute
- 70μA peak current during measurement
- Supply range 1.8V – 3.6V
- $\pm 0.3^{\circ}\text{C}$ from 10°C to 40°C , -40°C to 85°C range



Small

- QFN 3x3mm
- CSP

Standard products and availability from Microdul

Product	Datasheet Link	Package	Article Number	Description	Availability
MS8883A	Datasheet MS8883A	SO8	916683	1-channel cap-switch	✓
PCF8883T/1	Datasheet PCF8883T/1	SO8	9160398	1-channel cap-switch	✓
PCF8883US/7EA/1	Datasheet PCF8883US/7EA/1	CSP	9160397	1-channel cap-switch	✓
MS8883C	Datasheet MS8883C	QFN16	9160178	1-channel cap-switch	✓
MS8885B	Datasheet MS8885B	QFN28	9160151	8-channel cap-switch	✓
PCF8885TS/1	Datasheet PCF8885TS/1	TSSOP28	9160399	8-channel cap-switch	✓
PCA8885TS/Q900/1	Datasheet PCA8885TS/Q900/1	TSSOP28	9160404	8-channel cap-switch Automotive	✓
MS8890B	Datasheet MS8890B	QFN16	9160384	2-channel human body detector	✓
MS8890B	Datasheet MS8890B	CSP	9160385	2-channel human body detector	✓
MS8891A	Datasheet MS8891A	QFN16	9160407	2-channel human body detector	✓
MS8891A	Datasheet MS8891A	CSP	9160406	2-channel human body detector	✓
MS1088D	Datasheet MS1088D	QFN16	9160372	Temperature sensor	✓
MS1088D	Datasheet MS1088D	CSP	9160379	Temperature sensor	✓
MS8892	In development			1-channel ULP cap-sensor	Samples in 2020, production 2021
MS1089	In development			ULP temperature sensor	Samples in 2020, production 2021

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