

## CEM102

# Analog front end (AFE) for very low power Continuous Glucose Measurements (CGM) and similar applications

## Product Overview

For complete documentation, see the data sheet.

The CEM102 is an analog front end (AFE) specifically developed for continuous glucose monitoring (CGM) and other applications using amperometric measurements where sensing very low currents is required. With its small form factor and low power consumption, it enables further miniaturization and increase of battery life for many end applications. CEM102 is designed to be used together with onsemi RSL15 (Secure Bluetooth® 5.2 wireless MCU), bringing several additional system-level benefits such as operating at optimized system power consumption and supply voltage. This includes operating the system at a wide 1.3 to 3.6 V supply voltage range, typically using a single 1.5 V silver oxide battery or a 3 V coin cell. There is also a CEM102 evaluation board that in addition to CEM102 includes RSL15 together with sample code to set up and perform measurements with CEM102. This facilitates a jump start of system and FW development.

### Note)

The design materials (datasheet, firmware, documents for evaluation boards) are available under NDA. Contact our sales via high-light "Email Sales" on top of the page. Please use official email address to register MyON.

RSL15 product page: [www.onsemi.com/RSL15](http://www.onsemi.com/RSL15)

## Features

- Completely 2 channel solutions for electrochemical measurement(CEM102+RSL15)
- Support 1,2,3 or 4 electrodes
- Extremely low system current consumption
- High resolution ADC, several DACs for bias setting and factory trimmed system
- Detection for abnormal sensor conditions and Host processor wake up
- Small footprint area

## Applications

- Electrochemical measurement systems

## End Products

- Continuous Glucose Monitor
- IoT sensor devices
- Wearables

## Part Electrical Specifications

Product	Status	Compliance	Number of Channels	VDD Min (V)	VDD Max (V)	Idd (uA)	T <sub>A</sub> Min (°C)	T <sub>A</sub> Max (°C)	Package Type	Case Outline	MSL Type	MSL Temp (°C)	Container Type	Container Qty.
CEM102	Active		2	2.375	3.63	3.5	-10	70	WLCS P25 1.88x 1.84x 0.30, 0.35P	567L A.PDF	1	260	REEL	5000