

# LPS33HW

## 10-bar, water-resistant MEMS pressure sensor



### Practice water sports with new go-anywhere water-resistant MEMS pressure sensor

LPS33HW represents the latest generation of high-performance MEMS pressure sensors specifically designed for wearables but also industrial equipment and utility meters. LPS33HW shows resistance also to chemicals like chlorine, bromine and salt water, making it the ideal sensor for swimming in pools and sea. It is also resistant to soaps and detergents used when showering or cleaning. Gel inside the IC contributes to its resistance of up to 10 bar water or air pressure and its low RMS noise level (0.8 Pa) ensures accuracy when monitoring the altitude in indoor or outdoor environments.

#### KEY FEATURES

- 260 to 1260 hPa absolute pressure range
- Current consumption down to 3  $\mu$ A
- 20x full-scale overpressure capability
- Embedded temperature compensation
- 24-bit pressure data output
- 16-bit temperature data output
- I2C/SPI digital interfaces
- Interrupt functions: data ready, FIFO flags, pressure thresholds
- Temperature range:  $-40$  to  $+85$   $^{\circ}$ C
- CCLGA-10L ceramic package with metal lid (3.3 x 3.3 x 2.9 mm)

#### KEY APPLICATIONS

- Wearables
- Altimeters and barometers for portable devices
- GPS applications
- Weather station equipment
- Industry 4.0 sensors

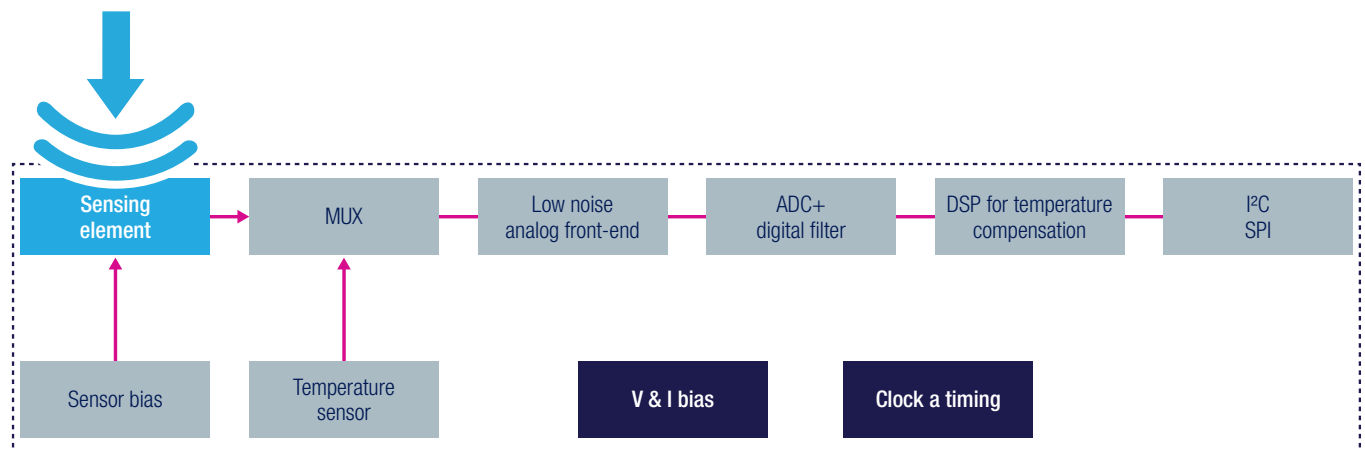
#### ADDITIONAL FEATURES

- Supply voltage range: 1.7 to 3.6 V
- Pressure sensitivity: 4096 LSB/hPa
- RMS pressure noise: 0.008 hPa
- Overpressure (water): up to 10 bar (equivalent 90 meter depth)

# CCLGA-10L



## BLOCK DIAGRAM



## EVALUATION TOOLS

Ordercode	Description
STEVAL-MKI183V1	LPS33HW adapter board for a standard DIL24 socket
STEVAL-MKI109V3	Professional MEMS tool



© STMicroelectronics - October 2017 - Printed in United Kingdom - All rights reserved  
 The STMicroelectronics corporate logo is a registered trademark of the STMicroelectronics group of companies  
 All other names are the property of their respective owners

