



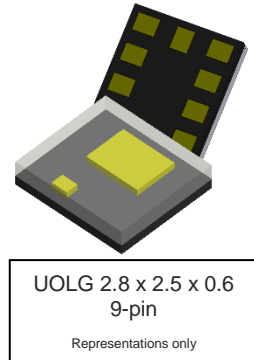
## IQS621

Combination sensor with ambient light sensing (ALS), capacitive proximity/touch, Hall-effect sensor & inductive sensing capabilities

The IQS621 ProxFusion™ IC is a multifunctional, ambient light sensing (ALS), capacitive, Hall-effect & inductive sensor designed for applications where any or all of the technologies may be required. The IQS621 is an ultra-low power solution designed for short or long term activations through any of the sensing channels. The IQS621 is fully I<sup>2</sup>C compatible.

### Features

- **Unique combination of sensing technologies:**
  - Capacitive sensing
  - Ambient light sensing (ALS)
  - Hall-effect sensing
  - Inductive sensing
- **Capacitive sensing**
  - Full auto-tuning with adjustable sensitivity
  - 2pF to 200pF external capacitive load capability
  - Enhanced temperature stability
- **Ambient light sensing (ALS)**
  - Absolute lux output
  - Human eye response compensated
  - 4-bit ALS range output (0 - 10)
  - Dual threshold detection for day/night indication with hysteresis
- **Hall-effect sensing**
  - On-chip Hall-effect measurement plates
  - Dual direction Hall switch sensor UI
  - 2 level detection (widely variable)
  - Detection range 10mT – 200mT
- **Inductive sensing**
  - 2 Level detection and hysteresis for inductive sensing
  - External sense coil required (PCB trace)
- **Multiple integrated UI options** based on years of experience in sensing on fixed and mobile platforms:
  - Proximity wake-up / Touch; Hysteresis
- **Automatic Tuning Implementation (ATI)** – performance enhancement (10bit)
- **Minimal external components**
- **Standard I<sup>2</sup>C interface**
- **Optional RDY indication** for event mode operation
- **Low power consumption:**
  - 75uA (100Hz response, 1ch inductive)
  - 95uA (100Hz response, 2ch Hall)
  - 75uA (100Hz response, 3ch capacitive)
  - 60uA (100Hz response, ALS)
  - 25uA (20Hz response, 1ch inductive)
  - 25uA (20Hz response, 2ch Hall)
  - 20uA (20Hz response, 3ch capacitive)
  - 18uA (20Hz response, ALS)
  - 2.5uA (4Hz response, 1ch cap. wake-up)
- **Supply voltage:** 1.8V to 3.3V
- **Low profile UOLG - 2.8 x 2.5 x 0.6 - 9-pin package**



### Applications

- Mobile electronics (phones/tablets)
- Home automation & lighting control
- White goods and appliances
- Wearable devices
- Human Interface Devices
- Aftermarket automotive<sup>1</sup>

Available Packages	
T <sub>A</sub>	UOLG-2.8 x 2.5 x 0.6 – 9N
-20°C to 85°C	IQS621

<sup>1</sup> The part is not automotive qualified.




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Please visit [www.azoteq.com](http://www.azoteq.com) for a list of distributors and worldwide representation.

The following patents relate to the device or usage of the device: US 6,249,089; US 6,952,084; US 6,984,900; US 7,084,526; US 7,084,531; US 8,395,395; US 8,531,120; US 8,659,306; US 8,823,273; US 9,209,803; US 9,360,510; US 9,496,793; US 9,709,614; EP 2,351,220; EP 2,559,164; EP 2,748,927; EP 2,846,465; HK 1,157,080; SA 2001/2151; SA 2006/05363; SA 2014/01541; SA 2015/023634; SA 2017/02224;

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