



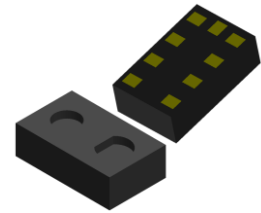
IQS622

Combination sensor with ambient light sensing (ALS), active IR, Hall-effect and two-channel capacitive proximity/touch sensor

The IQS622 ProxFusion® IC is a multifunctional ambient light sensing (ALS), active IR, capacitive & Hall-effect sensor designed for applications where any or all of the technologies may be required. The IQS622 is an ultra-low power solution designed for short or long term activations through any of the sensing channels. The IQS622 is fully I²C compatible and can be configured to operate on an event mode basis to wake-up on dedicated sensors.

Features

- **Unique combination of sensing technologies:**
 - Capacitive sensing
 - Ambient light sensing (ALS)
 - Active IR proximity sensor
 - Hall-effect sensing
- **Capacitive sensing**
 - Full auto-tuning with adjustable sensitivity
 - 2pF to 200pF external capacitive load capability
 - Enhanced temperature stability
- **Ambient light sensing (ALS)**
 - 4-bit ALS range output (0 - 10)
- **Active IR proximity sensor**
 - 60mm range
 - Pulsed LED current for lower power
 - 2 Level detection 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
- **Multiple integrated UI options** based on years of experience in sensing on fixed and mobile platforms:
 - Proximity wake-up / Touch; SAR; Hysteresis
- **Automatic Tuning Implementation (ATI)** – performance enhancement (10bit)
- **Minimal external components**
- **Standard I²C interface**
- **Optional RDY indication** for event mode operation
- **Low power consumption:**
 - 60µA (100Hz response, 2ch capacitive)
 - 42µA (100Hz response, capacitive SAR)
 - 26µA (100Hz response, ALS)
 - 32µA (100Hz response, active IR)
 - 80µA (100Hz response, 2ch Hall-effect)
 - 17µA (20Hz response, 2ch capacitive)
 - 42µA (20Hz response, capacitive SAR)
 - 8µA (20Hz response, ALS)
 - 10µA (20Hz response, active IR)
 - 22µA (20Hz response, 2ch Hall-effect)
 - 2.5µA (4Hz response, 1ch cap. wake-up)
- **Supply voltage: 2.0V to 3.3V**
- **Low profile DMA – 3.94 x 2.36 x 1.37 – 9-pin package**



DMA -3.94 x 2.36 x 1.37
9-pin
Representations only

Applications

- **Laptops, Notebooks, Mobile phones, Tablets**
 - On-ear detection
 - Screen brightness adjust
 - Keyboard backlight adjust
 - Smart cover detection and orientation
 - SAR
 - Touch volumes controls

Available Packages	
T _A	DMA – 3.94 x 2.36 x 1.37 – 9N
-20°C to 85°C	IQS622




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Please visit 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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