

IQS7222E

The IQS7222E ProxFusion® IC is a sensor fusion device for applications that require multiple sensing capabilities from a single sensor IC. The sensor is fully I2C compatible and on-chip calculations enable multiple application options. Various UIs from gestures to power mode switching allows the IC to respond effectively in the intended application with ultra-low power consumption.



OVERVIEW

Main Features

- Highly flexible ProxFusion® device
- 12 sensor pad connections (QFN-20) / 10 sensor pad connections (WLCSP-18)
- Configure up to 9 Channels using the external connections or internal sensor
- External sensor options:
 - Up to 8 self-capacitive touch/proximity sensing channels
 - Up to 8 projected capacitive touch/proximity sensing channels
- Internal sensor option:
 - Hall-effect switch
- Built-in basic functions:
 - Automatic tuning
 - Noise filtering
 - Differential measurements (reference channels)
 - Debounce & hysteresis
 - Dual-direction trigger indication
- Built-in Signal processing options:
 - Slider output (0-255)
 - Wheel output (0-255)
 - Gesture functions (swipe, tap, hold)
 - Movement detection
- Design simplicity
 - PC Software for debugging and obtaining optimal settings and performance
 - One-time programmable settings for custom power-on IC configuration
 - Auto-run from programmed settings for simplified integration
- Automated system power modes for optimal response vs consumption
- I2C communication interface with IRQ/RDY(up to fast plus -1MHz)

- Event and streaming modes
- Customizable user interface due to programmable memory
- Supply Voltage 1.8V(-5%)to 3.5V
- Small packages
 - WLCSP18 (1.62 x 1.62 x 0.5 mm) - interleaved 0.4mm x 0.6mm ball pitch
 - QFN20 (3 x 3 x 0.5 mm) - 0.4mm pitch

Applications

- SAR compliance in mobile devices
- Wear detection
- Multiple slider, wheel & button designs
- Low-power wake-up buttons/proximity
- Hall-effect dock detection