

IQS9151



The IQS9151 ProxFusion® IC is a generic and configurable trackpad product aimed to be suitable for numerous design variations and requirements. The IQS9151 has multi-touch high-performance (linearity, accuracy, low-noise) trackpad outputs, integrated snap button options, and an on-chip gesture recognition engine. The IQS9151 features best-in-class sensitivity, signal-to-noise ratio, and automatic tuning of electrodes. Low-power proximity detection allows extremely low-power operation.

OVERVIEW

Main Features

- Highly flexible ProxFusion® device
- Self-/Mutual-capacitive sensors configuration for device wake-up
- Ultra Low Power (ULP) wake-up on touch
- RF immunity
- Sensor flexibility:
 - Automatic sensor tuning for optimal sensitivity
 - Internal voltage regulator
 - On-chip noise filtering
 - Detection debounce and hysteresis
 - Wide range of capacitance detection
- I2C communication interface with IRQ/RDY, up to Fast-Mode Plus (1 MHz)
- QFN52 (6×6×0.75 mm) – 0.35 mm pitch
- Wide input voltage supply range: 2.2 V to 3.5 V > Wide operating temperature range: -40 °C to +85°C
- Trackpad
 - Up to 7 fingers tracking
 - High-resolution coordinate outputs
 - Fast response
 - Individual touch sensor
 - Snap dome detection
 - Integrated touch size output (area and strength) for touch integrity
 - Multi-finger gesture recognition engine
 - Electrode mapping for optimal PCB layout
 - Configurable coordinate resolution and orientation
 - Compatible with a wide range of overlay materials and thicknesses

- Compatible with multiple 1- and 2-layer sensor patterns
- Adjustable sensing frequency offset for limiting potential interference
- No calibration required - systems automatically compensated for mechanical & temperature changes
- Design and manufacturing support
 - Touch pattern layout drawing
 - Full FPC layout package (example & customized)
 - Test guide for touch pattern
 - RFI immunity design support >
- Design simplicity
 - PC GUI software for debugging and obtaining optimal performance
 - Easily obtain setup defaults from the GUI header file export
 - No production line calibration required
 - EEPROM compatibility for default settings storage for auto-startup