IQS9150

The IQS9150 ProxFusion® IC is a generic and configurable trackpad product aimed to be suitable for numerous design variations and requirements. The IQS9150 has multi-touch high-performance (linearity, accuracy, low-noise) trackpad outputs, integrated snap button options, and an on-chip gesture recognition engine. The IQS9150 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