MELFAS Inc.

BioPoint™ MMS-438E® Datasheet

Capacitive Touch Screen Sensor IC

Feature Overview

- **High Performance Capacitance sensing**
  - 32-bit ARM Cortex™ M0+ Processor
  - Embedded DSP for Multi-touch Processing
  - Support up to 4.3 inch diagonal (4mm sensor pitch)
  - Provide High-Quality Accuracy and Linearity performance on 336 nodes (14×24 electrodes)
  - Provide effective 7.2-V TX drive for enhancing SNR Performance
  - TX Driving Frequency up to 700 kHz
  - 10 Fingers Multi touch report rate : Typical 100Hz (Single touch up to 240Hz) depending on the active current and the noise environment
  - Small finger support down to 4mm
  - Support to 2.5mm Passive Stylus contact
  - Support to thickness glove touch input (Test condition : 10Φ conducted rod @ 3T Acryl)

- **Suitable for Single Layer Multi Sensing**
  - Support up to 6Φ @7.0-inches GF1 solution
  - Provide the sensor pattern suitable for 1 Layer solution for low-cost implementation

- **Low power consumption and I/O modes**
  - 2.4V to 3.6V Single supply voltage
  - Active current : Typ 6.4mA
  - Deep sleep current : Max 1uA
  - Support 13-type wake-up gesture scheme on Low power mode (Max 0.5mA)
  - Available for Open-drain/Push pull mode on I/O pins
  - Adjust INTR pin to Open drain mode
  - Available for CE pin as wake up function

- **Communication interface**
  - I^2C-compatible for Standard (100kbps) / Fast (400kbps) mode as Slave

- **48kbytes E-FLASH and 7kBytes SRAM**
  - ISC by serial interface, F/W can be updated in systems

- **Robust to the noisy environment**
  - Common mode noise immunity > 20 Vpp
  - Immune to the Charger noise

- **Package**
  - UQFN 48ld 5×5×0.5T, 0.35mm lead pitch