



**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<sup>2</sup>C-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

Datasheet (REV. 1.0)

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