

## MM3725/MM3726 Series

2023/07/20

### Outline

The MM3725/MM3726 series are protection IC using high voltage CMOS process for overcharge, overdischarge and overcurrent protection of the rechargeable Lithium-ion or Lithium-polymer battery. The overcharge, overdischarge, discharging overcurrent, charging overcurrent, and short protection of the rechargeable one-cell Lithium-ion or Lithium-polymer battery can be detected. Each of these IC composed of four voltage detectors, short detection circuit, reference voltage sources, oscillator, counter circuit and logical circuits.

### Product Series

For one-cell

### Features

#### 1. Range and accuracy of detection/release voltage

- Overcharge detection voltage 3.6V to 5.0V, 5mV step Accuracy  $\pm 20\text{mV}$
- Overcharge release voltage  $V_{\text{det1}} - 0.2\text{V}$  to  $V_{\text{det1}}$ , 5mV step Accuracy  $\pm 30\text{mV}$
- Overdischarge detection voltage 2.0V to 3.0V, 50mV step Accuracy  $\pm 35\text{mV}$
- Overdischarge release voltage 2.0V to 3.0V, 50mV step  $+50/-35\text{mV}$  (In case  $V_{\text{det2}} = V_{\text{rel2}}$ )  
 $+90/-65\text{mV}$  (In case  $V_{\text{det2}} \neq V_{\text{rel2}}$ )
- Discharging overcurrent detection voltage 20mV to 300mV, 1mV step Accuracy  $\pm 5\text{mV}$
- Charging overcurrent detection voltage  $-300\text{mV}$  to  $-20\text{mV}$ , 1mV step Accuracy  $\pm 5\text{mV}$
- Short detection voltage 70mV to 350mV, 1mV step Accuracy  $\pm 8\%$
- 0V battery charge inhibition battery voltage 1.3V to 1.8V/0.1V step Accuracy  $\pm 100\text{mV}$   
0.9V Accuracy  $\pm 300\text{mV}$

#### 2. Range of detection delay time

- Overcharge detection delay time 256ms to 4.6s
- Overdischarge detection delay time 8ms to 256ms
- Discharging overcurrent detection delay time 8ms to 256ms

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- Charging overcurrent detection delay time 6ms to 64ms
  - Short detection delay time 250 $\mu$ s to 400 $\mu$ s
3. 0V battery Charge function Selectable "Permission" or "Inhibition"
4. Current consumption
- Normal mode Typ. 3.0 $\mu$ A, Max. 6.0 $\mu$ A
  - Stand-by mode Max. 0.1 $\mu$ A (In case Overdischarge latch function Enable)  
Max. 0.6 $\mu$ A (In case Overdischarge latch function Disable)

## Specifications

### Package

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SSON-6J

SSON-6M

SON-6C