

## MM3563 Series

2023/07/20

### Outline

This IC are secondary protection IC using high voltage CMOS process for overcharge protection of the rechargeable Lithium-ion or Lithium-polymer battery. The high accuracy overcharge detection of each cell of the rechargeable 1-3-cell Lithium-ion or Lithium-polymer battery is possible. Each of these IC composed of four voltage detectors, reference voltage sources, oscillator, counter circuit and logical circuits. The ultra-small package SSON-6A is used to minimize footprints.

### Product Series

For 1 to 3 cells secondary protection

### Features

1. Range and accuracy of overcharge detection/hysteresis voltage
  - Overcharge detection voltage 4.0V to 4.5V, 5mV step Accuracy $\pm$ 25mV
  - Overcharge hysteresis voltage -500mV to -50mV Accuracy $\pm$ 50mV to 100mV
2. Range of Overcharge detection delay time
  - Overcharge detection delay time 1ms to  $(1\text{ms} \times 2^{n1}) + (1\text{ms} \times 2^{n2})$
  - \*n1 and n2 can select two arbitrary integers between 0 to 13. (However  $n1 \neq n2$ )
3. Low current consumption
  - Typ. 1.5 $\mu$ A Max. 3.0 $\mu$ A (Vcell=4.0V)
  - Typ. 0.15 $\mu$ A Max. 0.30 $\mu$ A (Vcell=2.3V)

### Specifications

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Product name	Package	Overcharge detection voltage [V]	Overcharge hysteresis voltage $\frac{1}{4} \sim \frac{3}{4} V_1$ [V]	Overcharge detection delay time [s]
MM3563B02NRH	SOT-26A	4.350	0.100	2.000
MM3563B02RRE	SSON-6A	4.350	0.100	2.000
MM3563B03NRH	SOT-26A	4.350	0.100	6.000
MM3563B03RRE	SSON-6A	4.350	0.100	6.000
MM3563B04NRH	SOT-26A	4.450	0.200	2.000
MM3563B04RRE	SSON-6A	4.450	0.200	2.000
MM3563B05RRE	SSON-6A	4.350	0.500	4.100
MM3563B06RRE	SSON-6A	4.450	0.500	4.100
MM3563B07NRH	SOT-26A	4.300	0.100	2.000
MM3563B07RRE	SSON-6A	4.300	0.100	2.000
MM3563B08RRE	SSON-6A	4.400	0.200	2.000
MM3563B09RRE	SSON-6A	4.220	0.500	4.100
MM3563B11RRE	SSON-6A	4.350	0.300	6.000
MM3563B13RRE	SSON-6A	4.500	0.500	4.100
MM3563B15RRE	SSON-6A	4.450	0.300	6.000

## Package

[SSON-6A](#)[SOT-26A](#)