

1 to 3cell Li-ion/Li-polymer battery Secondary protection IC MM3563B Series

Outline

MM3563B series 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.

Features

(Unless otherwise specified, Topr=+25°C)

1. Range and accuracy of overcharge detection/hysteresis voltage

- | | | |
|---------------------------------|------------------------|----------------------------------|
| ● Overcharge detection voltage | 4.0V to 4.5V, 5mV step | Accuracy ±25mV (Topr=0 to +60°C) |
| ● Overcharge hysteresis voltage | -500mV to -50mV | Accuracy ±50mV to 100mV |

2. Range of detection delay time

- | | |
|-----------------------------------|---|
| ● Overcharge detection delay time | 1ms to $(1ms \times 2^{n1}) + (1ms \times 2^{n2})$ |
| | *n1 and n2 can select two arbitrary integers between 0 to 13. (However n1≠n2) |

3. Low current consumption

- Typ. 1.5μA, Max. 3.0μA (Vcell=4.0V)
 Typ. 0.15μA, Max. 0.30μA (Vcell=2.3V)

4. Absolute maximum ratings

- | | |
|-------------------------|----------------------|
| ● VDD pin | VSS-0.3 to VSS+18V |
| ● OV pin | VSS-0.3V to VDD+0.3V |
| ● Storage temperature | -55°C to +125°C |
| ● Operation temperature | -40°C to +110°C |

Pin Assignment

Top view SSON-6A	Pin No.	Input / Output	Function
	1	INPUT	The input terminal of the power supply of IC
	2	INPUT	The input terminal of the positive voltage of V3 cell
	3	INPUT	The input terminal of the positive voltage of V2 cell, and the negative voltage of V3 cell
	4	INPUT	The input terminal of the positive voltage of V1 cell, and the negative voltage of V2 cell
	5	INPUT	The input terminal of the ground of IC, and the negative voltage of V1 cell
	6	OUTPUT	Output of over charge detection. Output type is CMOS. · Normal mode : "Low" · Overcharge mode : "High"

Top view SSON-6A	Pin No.	Input / Output	Function
	1	INPUT	The input terminal of the positive voltage of V2 cell, and the negative voltage of V3 cell
	2	INPUT	The input terminal of the positive voltage of V3 cell
	3	INPUT	The input terminal of the power supply of IC
	4	OUTPUT	Output of over charge detection. Output type is CMOS. · Normal mode : "Low" · Overcharge mode : "High"
	5	INPUT	The input terminal of the ground of IC, and the negative voltage of V1 cell
	6	INPUT	The input terminal of the positive voltage of V1 cell, and the negative voltage of V2 cell

Selection Guide

(3000pcs/Reel)

Product name	Package	Overcharge detection voltage [V]	Overcharge hysteresis voltage[mV]	Overcharge detection dead time [s]	Stand by function	PTC function
		V _{CELLU}	V _{HYS}	T _{OV}		
MM3563B02NRH	SOT-26A	4.350±0.025	100±50	2.0±30	○	-
MM3563B02RRE	SSON-6A	4.350±0.025	100±50	2.0±30	○	-
MM3563B03NRH	SOT-26A	4.350±0.025	100±50	6.0±30	○	-
MM3563B03RRE	SSON-6A	4.350±0.025	100±50	6.0±30	○	-
MM3563B04NRH	SOT-26A	4.450±0.025	200±70	2.0±30	○	-
MM3563B04RRE	SSON-6A	4.450±0.025	200±70	2.0±30	○	-
MM3563B05RRE	SSON-6A	4.350±0.025	500±100	4.1±30	○	-
MM3563B06RRE	SSON-6A	4.450±0.025	500±100	4.1±30	○	-
MM3563B07RRE	SSON-6A	4.300±0.025	100±50	2.0±30	○	-
MM3563B08RRE	SSON-6A	4.400±0.025	200±70	2.0±30	○	-
MM3563B09RRE	SSON-6A	4.220±0.025	500±100	4.1±30	○	-
MM3563B11RRE	SSON-6A	4.350±0.025	300±80	6.0±30	○	-
MM3563B13RRE	SSON-6A	4.500±0.025	500±100	4.1±30	○	-
MM3563B15RRE	SSON-6A	4.450±0.025	300±80	6.0±30	○	-

Please inquire to us, if you request a rank other than the above.

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• The details listed here are not a guarantee of the individual products at the time of ordering. When using the products, you will be asked to check their specifications.

