

# 2 cells lithium-ion/lithium-polymer battery Secondary protection IC MM3480 Series

## Outline

MM3480 series is a secondary protection IC for 2 serial cells lithium-ion / lithium-polymer rechargeable secondary battery, which detects battery voltage by cell.

With a timer circuit built-in, it is possible to set overcharge detection delay time.

## Features

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

- (1) Range and accuracy of detection voltage
  - Overcharge detection voltage                      4.0V to 4.5V, 5mV step                      Accuracy±30mV
  
- (2) Range of detection delay time
  - Overcharge detection delay time                      1.2s to 10.0s                      Selection from Rank
  
- (3) Low current consumption
  - Typ. 2.5µA, Max. 5.0µA (Vcell=3.5V)
  - Typ. 0.1µA, Max. 0.15µA (Vcell=2.3V)
  
- (4) Absolute maximum ratings
  - VDD pin    VSS-0.3V to +12V
  - OV pin    VSS-0.3V to VDD+0.3V
  - Storage temperature                                    -55 to +125°C
  - Operation temperature                                -40 to +110°C

## Pin Assignment

Top view SOT-26A	Pin No.	Function
	1	The input terminal of the positive voltage of VL cell and the negative voltage of VH cell.
	2	The input terminal of the positive voltage of VH cell.
	3	The input terminal of the power supply of IC.
	4	Output of over charge detection. (Output type is open drain type of N-ch FET)
	5	The input terminal of the ground of IC.
	6	Non connect

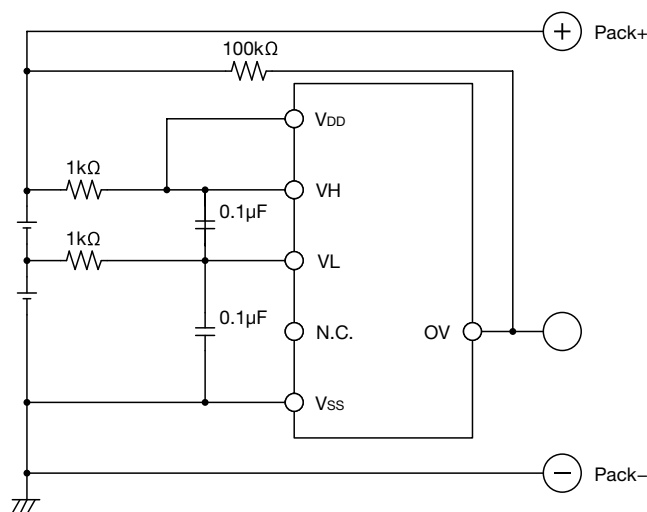
Top view SSON-6A	Pin No.	Function
	1	The input terminal of the power supply of IC.
	2	The input terminal of the positive voltage of VH cell.
	3	The input terminal of the positive voltage of VL cell, and the negative voltage of VH cell.
	4	Non connect
	5	The input terminal of the ground of IC.
	6	Output of over charge detection. (Output type is open drain type of N-ch FET)

**Selection Guide** (3000pcs/Reel)

Product name	Package	Function	Overcharge detection voltage [V]	Overcharge detection dead time [ms]	Output type
			V <sub>CELLU</sub>	T <sub>ov</sub>	
MM3480ANRE	SOT-26A	2 cells	4.220±0.030	10±3	N-Ch FET open drain Active High
MM3480ARRE	SSON-6A	2 cells	4.220±0.030	10±3	
MM3480BRRE	SSON-6A	2 cells	4.300±0.030	10±3	
MM3480CRRE	SSON-6A	2 cells	4.350±0.030	10±3	

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

**Application Circuit**



\*Please there must be a possibility of the malfunction when there is a potential difference between VDD and VH, therefore between VDD and VH be short-circuited.

\*The constant of the mark is a standard.