2 cells Li-ion/Li-polymer battery Secondary protection IC
Monolithic IC MM3480 Series

Outline

MM3480 Series is a secondary protection IC for 2 serial cells Li-ion/Li-polymer rechargeable 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/release 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
   - Overdischarge detection delay time   Selection from 20ms, 24ms, 96ms, 125ms, 144ms
   - Discharging overcurrent detection delay time   Selection from 8ms, 12ms, 16ms, 20ms, 48ms
   - Charging overcurrent detection delay time   Selection from 4ms, 6ms, 8ms, 16ms
   - Short detection delay time   400µs fixed

3. Low current consumption
   Typ. 2.5µA, Max. 5.0µA (Vcell=3.5V)
   Typ. 2.0µA, Max. 0.15µA (Vcell=2.3V)

4. Absolute maximum ratings
   - VDD pin   VSS–0.3 to VSS+28V
   - 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	N.C.

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	N.C.
	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
			$V_{CELL}U$	T_{OV}	
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
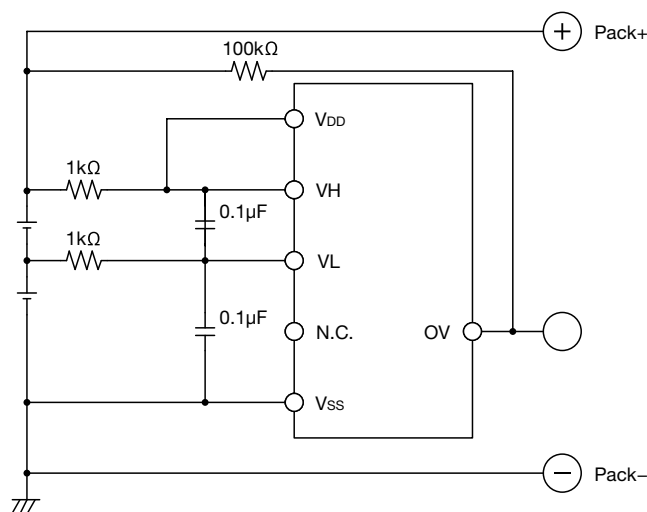
*Please there must be a possibility of the malfunction when there is a potential difference between VDD and VH, therefore between VDD and VH be short-circuited.

*The constant of the mark is a standard.