

Battery Protection IC for Multi-Cell (Secondary Protection)

Features

- Secondary Protection for 3- or 4-Cell
- High Accuracy Over Charge Sense Voltage: $\pm 25\text{mV}$
- Programmable Delay Time, or Optional Internal Delay Time (1.8sec typically)
- High Input-Voltage Device
 Absolute Maximum Rating: 40V
 Operating Voltage Range: 5.5V to 26V
- Low Power Consumption:
 At 3.5V for each cell: 3.3 μA max. (+25°C)
- Package: NMSOP-8L

Applications

- Notebook PCs
- Portable Instrumentation
- Medical and Test Equipment

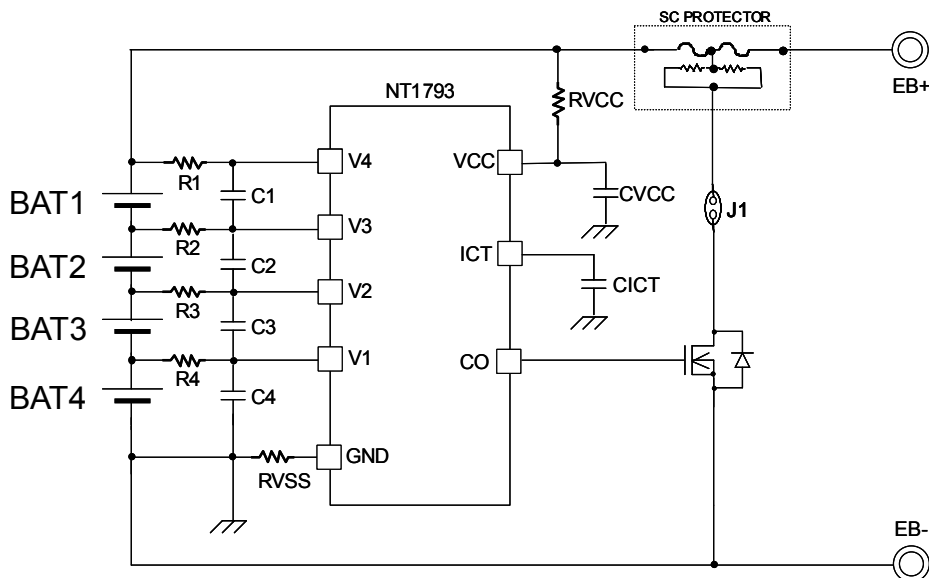
Descriptions

NT1793 is an accurate secondary battery protection IC for 3/4-cell Lithium-Ion/Lithium-Polymer battery packs, on which a precise voltage detection circuit with a specific reference is embedded.

NT1793 monitors individual cell voltages. If any cell voltage reaches or goes over the specified voltage for a period longer than the delay time set, NT1793 activates an external MOSFET to blow the three-terminal protection fuse, permanently disabling the battery pack.

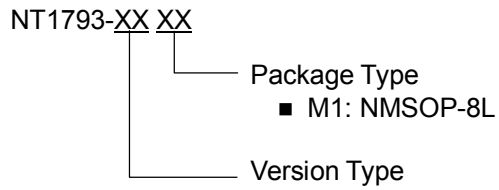
For the delay time control, NT1793 provides a built-in internal delay circuit (1.8sec) and an external capacitor whichever will be activated according to the situation.

Typical Application Circuit



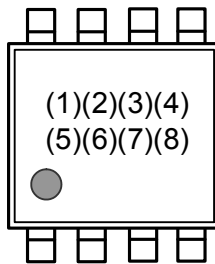
High Side Application for 4-cell Protection

Ordering Information



Marking Information

NMSOP-8L
Top view



(1)(2) : Product Code

(3)(4) : Version Type

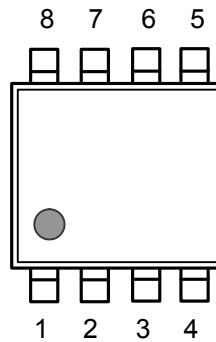
(5)(6)(7)(8) : Lot Number

| Product Code | Version Type | Overcharge Detection Voltage (V_{CU}) (V) | Overcharge Hysteresis Voltage (V_{CD}) (V) | Output Form |
|--------------|--------------|---|--|------------------------|
| AW | A1 | 4.45±0.025 | 0.38±0.1 | CMOS output active "H" |
| AW | A3 | 4.35±0.025 | 0.045±0.02 | CMOS output active "H" |

For any changes to the detection voltage or other parameters, please contact Neotec.

Pin Configurations and Descriptions

NMSOP-8L
Top view



| Pin No. | Name | Descriptions |
|---------|------|---|
| 1 | VCC | Power supply input |
| 2 | V4 | Cell voltage input (the cell of the highest voltage) |
| 3 | V3 | Cell voltage input (the cell of the second highest voltage) |
| 4 | V2 | Cell voltage input (the cell of the third highest voltage) |
| 5 | V1 | Cell voltage input (the cell of the lowest voltage) |
| 6 | GND | Ground pin |
| 7 | ICT | An external capacitor is connected to determine the programmable delay time |
| 8 | CO | Active output pin to control the external MOSFET |

Block Diagram

