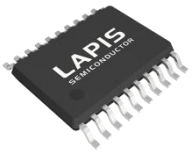
ROHM GROUP

LAPIS SEMICONDUCTOR

Lithium-ion battery protection LSI
Stand-Alone type **ML5243**



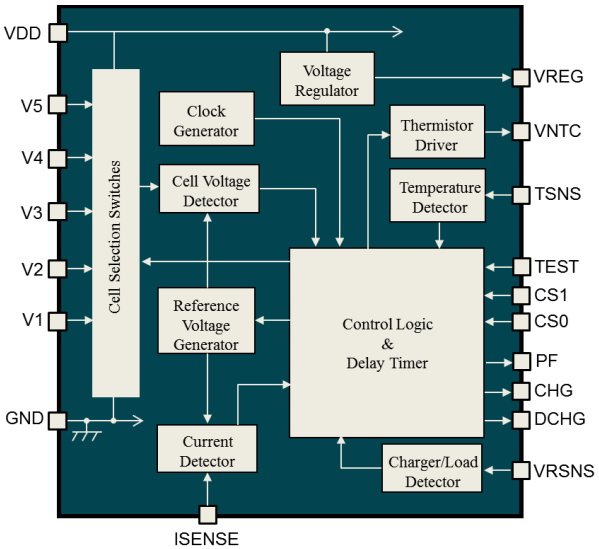
20-TSSOP

The ML5243 is a stand-alone type protection LSI intended for 3 to 5-cell lithium-ion secondary battery pack systems.
With the voltage detection, current detection, temperature detection and open-wire detection function, the ML5243 can build highly reliable battery pack systems.(*1)

Features

- 3,4,5 cell overvoltage/undervoltage detection
  OV accuracy:±25mV (Vcell=4.225V)
- 2nd overvoltage detection
- Over-current detection, high temperature detection, open-wire detection
- Charge/discharge enable signal output.
  CMOS / Nch open-drain / Pch open-drain (high voltage tolerant), selectable
- Quick test mode
- Low current consumption
  operating : 6μA (typ.)
  power down mode : 0. 1μA (typ.)
- Supply voltage : +5V to +25V
- Operating temperature : -40℃ to +85℃
- package : 20 pin-TSSOP

Block Diagram



Applications

- Power tool
- Garden tool

＊1 : Battery packs are simply conformed to IEC62841 and other standards.
＊2 : CHG/DCHG pins drive the gate pin of the charge/discharge FETs, or notify the status to peripheral circuit.

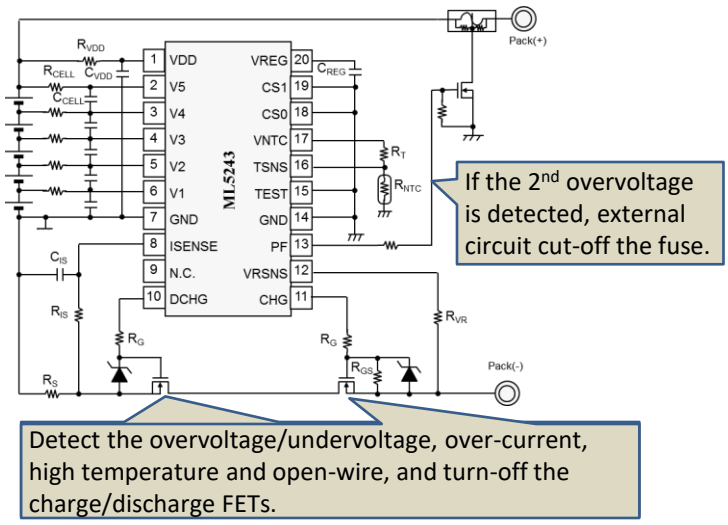
■ Detecting overvoltage/undervoltage of each cell, over-current, high temperature and open-wire

- Detect the overvoltage/undervoltage of each cell, over-current, high temperature. If detected, turn off the charge /discharge FET. (*2)
- Open-wire detection function detects the open-wire of every voltage detecting wire.

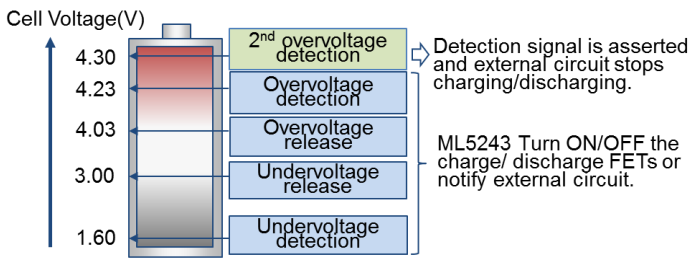
■ 2nd Overvoltage detection function

- If the overvoltage is detected but the voltage rise higher, 2nd overvoltage is detected and the status signal is asserted. The system can immediately cut-off the circuit, and safety is more enhanced.

Detection signals and peripheral example



2nd overvoltage detection



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※Please note that this is a leaflet, not a data sheet.
※Specifications are subject to change without notice.