

Dear customer

LAPIS Semiconductor Co., Ltd. ("LAPIS Semiconductor"), on the 1st day of October, 2020, implemented the incorporation-type company split (shinsetsu-bunkatsu) in which LAPIS established a new company, LAPIS Technology Co., Ltd. ("LAPIS Technology") and LAPIS Technology succeeded LAPIS Semiconductor's LSI business.

Therefore, all references to "LAPIS Semiconductor Co., Ltd.", "LAPIS Semiconductor" and/or "LAPIS" in this document shall be replaced with "LAPIS Technology Co., Ltd."

Furthermore, there are no changes to the documents relating to our products other than the company name, the company trademark, logo, etc.

Thank you for your understanding.

LAPIS Technology Co., Ltd.
October 1, 2020

Product Overview



SSOP30

ML5203 is a monitoring LSI for the lithium-ion secondary battery pack that supports 4 to 7 cells.

It detects the overcharge, over-discharge, and over-current for each cell, and automatically controls ON/OFF of the external charge/discharge control NMOS-FET.

It provides the functions of large overcharge detection as fail-safe of overcharge detection.

It also has the cell voltage monitor function, current monitor function and cell balance function based on the external microcontroller control.

Applications



Power tool

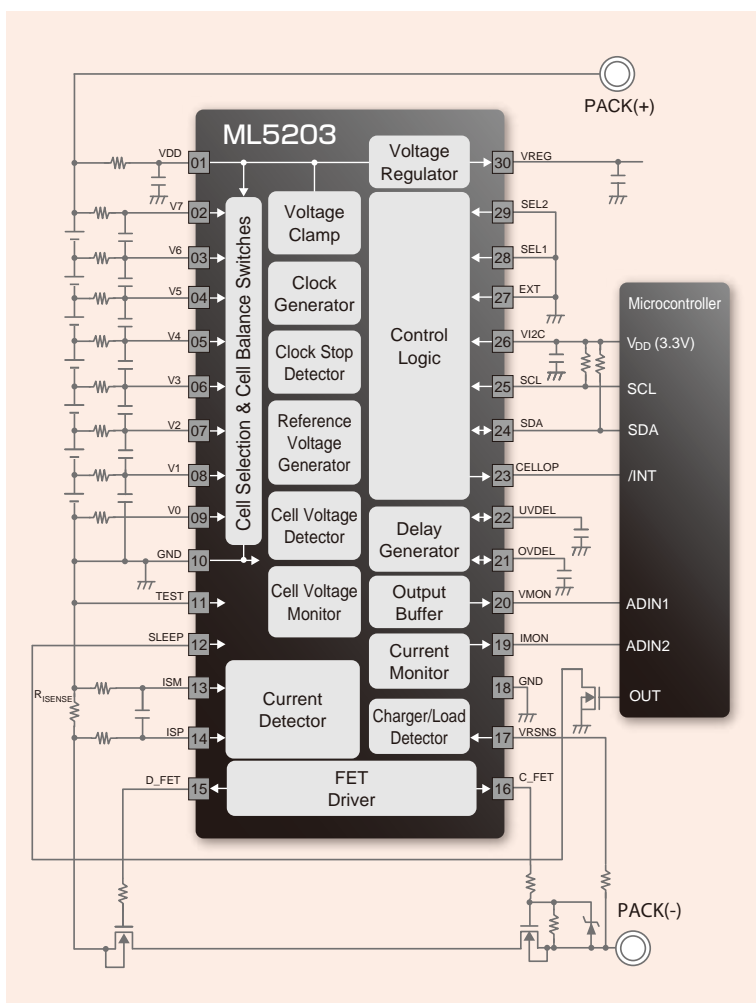


Electric Bicycle



Electric Power-Assisted Bicycle

Block diagram



Features

- Applicable from 4 up-to 7 cells series-connected Lithium ion battery packs.
- Power supply voltage : + 5 V ~ + 42 V
- Low current consumption
Normal mode : 30 μ A (typ.), 60 μ A (max.)
Sleep mode : 0.1 μ A (typ.), 1 μ A (max.)
- Overcharge detection accuracy : +/- 25 mV (typ.)
Large overcharge detection accuracy : +/- 35 mV (typ.)
Over-discharge detection accuracy : +/- 50 mV (typ.)
(* Each detection voltage is fixed as a mask code option)
- External FET control : NMOS-FET driver built-in
- Cell voltage monitoring function
- Cell balance function
Uses MCU I/F to control ON/OFF of the built-in cell balance switch
Built-in cell balance switch ON resistor = 6 Ω (typ.)
- External MCU interface
Equipped with I2C compatible serial interface
- Operating temperature range : - 40 $^{\circ}$ C ~ + 85 $^{\circ}$ C

Point

