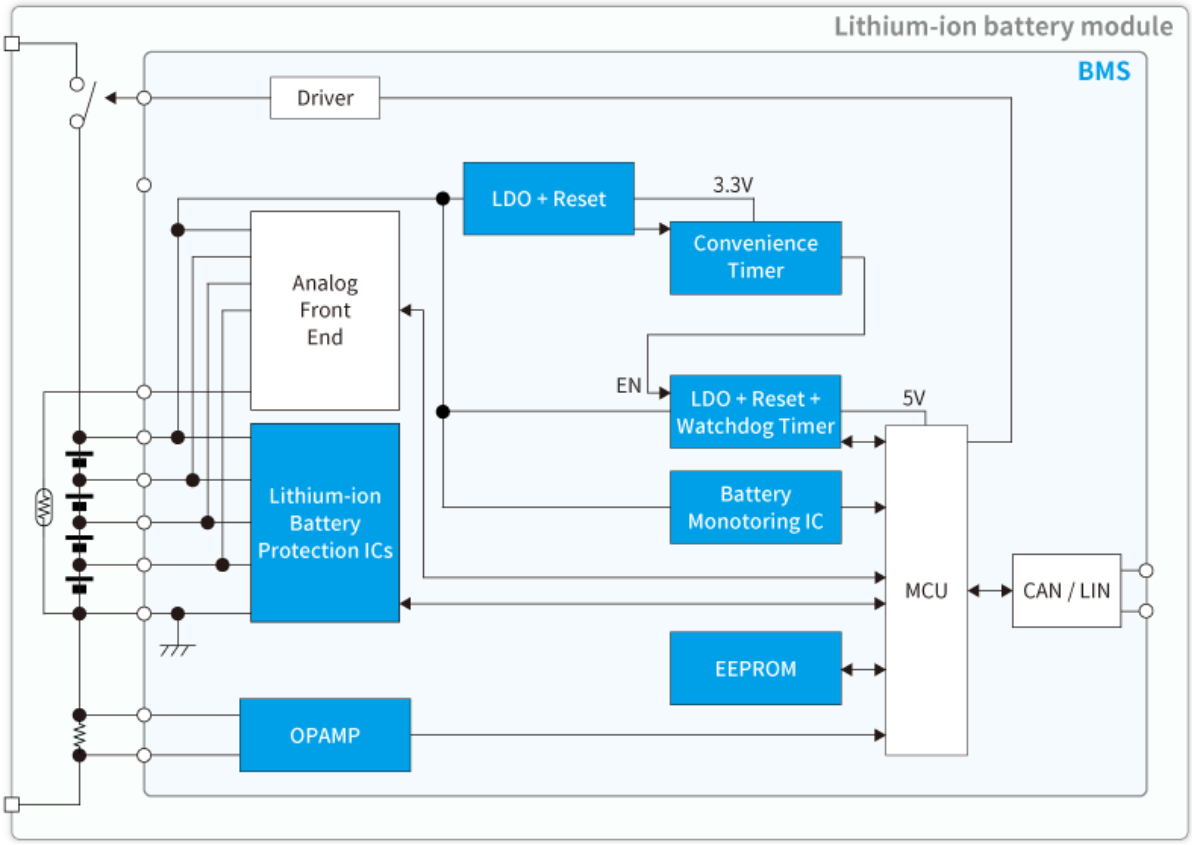
ICs ideal for 12V BMS

ABLIC
MinebeaMitsumi Group

Global warming, air pollution and other environmental issues have accelerated the trend away from the internal combustion engine (ICE*) towards EV, PHEV, HEV and other environmentally conscious vehicles.
Since 12V lead-acid batteries are expected to be prohibited in the near future, battery manufacturers are working ondeveloping a 12V lithium-ion battery replacement. Lithium-ion batteries differ from lead-acid batteries in that they require a BMS* for high-accuracy monitoring of battery voltage, charge-discharge current, temperature, etc. To prevent battery depletion, a reduction in standby current is indispensable.

ABLIC provides a host of products that are ideal as ICs in a BMS. ABLIC's lineup includes lithium-ion battery protection ICs suitable for voltage monitoring of any battery cell, battery monitoring ICs suitable for total voltage monitoring of battery cells, operational amplifiers suitable for monitoring charge-discharge current, intermittently operating convenience timer ICs suitable for reducing standby current or low current consumption power supply ICs. ABLIC has a host of products enabling selection of ICs ideal for 12V BMS.

*ICE : Internal Combustion Engine *ELV: End of Life Vehicle *BMS: Battery Management System



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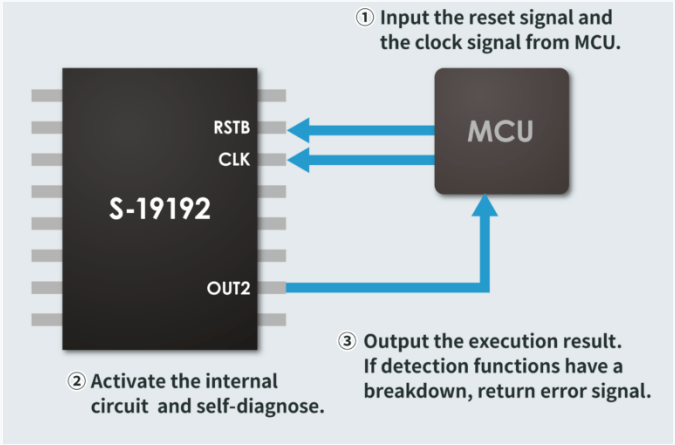
ABLIC's ICs ideal for 12V Battery Management System (BMS)

Lithium-ion Battery Protection IC S-19192 series Ultra-low current consumption



A Simple Configuration Capable of Standalone Monitoring Provided with a Self-diagnosis Function for Failure Detection

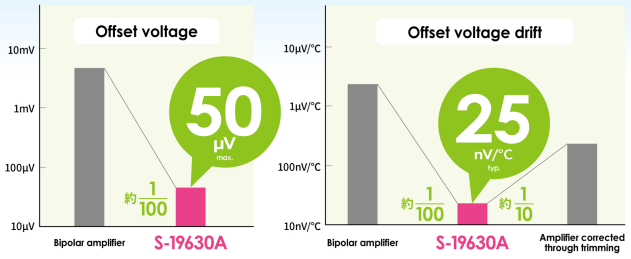
This is a 3 to 6-serial cell battery monitoring IC with a standalone monitoring function and self-diagnosis (self-test) function. Since the current consumption during operation is 18μA (max.), it can also be used in systems with strict standby current restrictions.

S-19192 Series

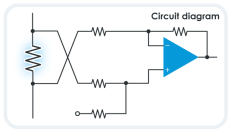
High-accuracy Operational Amplifier S-19630A Low offset voltage 36V operation

[Zero drift] operation

Capable of high-accuracy amplification of minute signals unaffected by temperature



Provides low offset that is about 1/100 of that of a bipolar amplifier. This has greatly lowered the trouble and cost in correcting output.

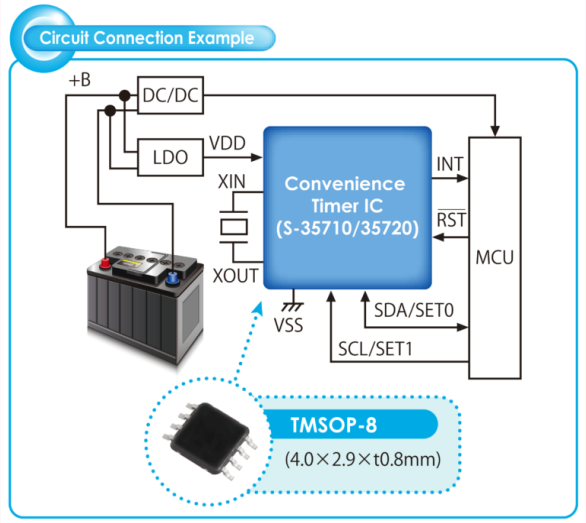


Contributing to High-Accuracy Current Sensors

A wide operating voltage range allows use of this IC in systems from 5V to high-voltage systems directly connected to battery. Low offset voltage enables high-accuracy current detection. Input Rail-to-Rail enables low-side and high-side current detection.

S-19630A Series

Convenience Timer S-35720 A series Ultra-low current consumption Alarm interrupt function



Intermittent Operation Greatly Reduces System Standby Current

This is a convenience timer with a hardware timer setting that allows the user to select alarm interrupt times using time setting pins. Thanks to its ultra-low current consumption of 0.2uA, this timer IC can replace the internal timer of a microcontroller (MCU) , which helps to greatly reduce standby current by operating the system intermittently.

S-35720A Series

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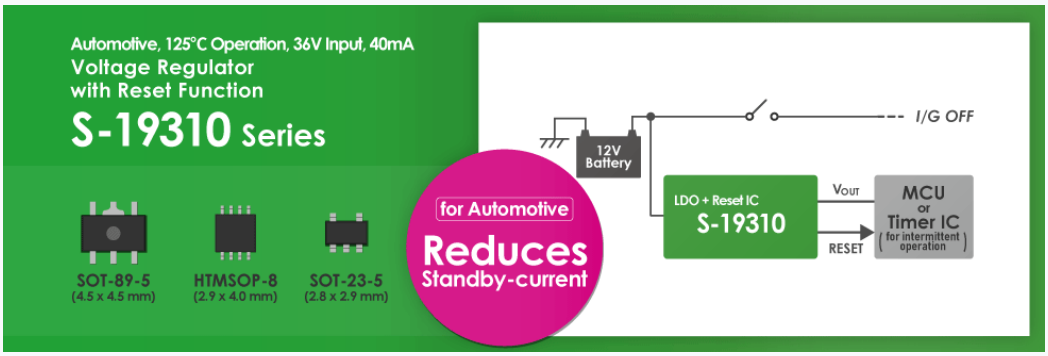
LDO Regulator S-19310 series Ultra-low current consumption

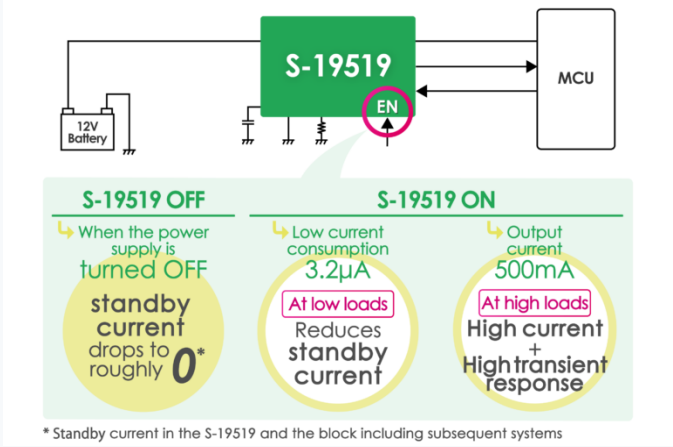


World's Lowest Current Consumption Reduces Standby Current

This is an LDO regulator with a 36V input, 40mA output, an ultra-low current consumption of 2.2μA (typ.) and comes with a reset function for monitoring the output voltage of the internal LDO regulator. It can be used as a timer IC power supply to create an intermittently operating system with ultra-low current consumption.

S-19310 Series

Watchdog Timer S-19518/9 series Ultra-low current consumption



* Standby current in the S-19519 and the block including subsequent systems

Single chip IC for Supplying MCU Power, Monitoring Voltage and Operation

This is a window watchdog timer IC with a 36V input, 500mA output and reset and LDO regulator functions. Current consumption during operation is a mere 3.2uA and when the Enable (EN) pin turns off the power supply to the MCU, standby current is reduced to virtually zero.

S-19518/9 Series

EEPROM S-25AxxxB series Page write Sequential read

An IC Satisfying the Industry's Highest Standards, Fully Operational up to +125℃, Data Can be Rewritten up to 300,000 Times and Retained for up to 50 Years

This is an 8K to 256Kbit SPI bus serial EEPROM. We provide a broad lineup of packages from 8-pin SOP, 8-pin TSSOP and 8-pin TMSOP.

S-25AxxxB Series

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