

STMicroelectronics introduces value-optimized power-management IC for automotive applications

Qualified to AEC-Q100, device simplifies power management for applications based on single-supply MCUs

GENEVA, SWITZERLAND, September 18, 2025 /EINPresswire.com/ -- The [SPSA068](#) from STMicroelectronics is a compact, convenient, and cost-effective power-management IC (PMIC) for automotive applications. With configurable parameters and qualified to AEC-Q100, the SPSA068 supports ISO 26262 functional safety (FuSa) approval up to ASIL-B.



Designed for use with microcontrollers (MCUs) that operate from a single-supply voltage, the SPSA068 implements all the features required in a turnkey solution for MCU power management. It integrates a 1A battery-compatible buck voltage regulator, a precise (1%) voltage reference, watchdog supervisors, diagnostic indicators, MCU reset control, and Serial Peripheral Interface (SPI) for configuration and status checking.

The device parameters are customizable via non-volatile memory (NVM). The buck regulator output can be configured to 5V, 3.3V, or 1.2V, and other voltages can be achieved using external resistors, with load-current options of 0.5A or 1A, while the switching frequency can be set to 0.4MHz or 2.4MHz. The voltage reference is adjustable to 5.0V, 3.3V, or 1.2V, designed for 20mA load current. Integrated protection includes over/undervoltage, overcurrent, short circuit and thermal shutdown. To meet MCU demand, the SPSA068 has a low-power mode for light-load conditions, with quiescent current of just 50µA.

Designed for direct connection to the battery, the PMIC has a comprehensive feature set and compact design that ensures efficient use of PCB space and shortens design time. The integrated NVM and low-power mode relieve system-level sensitivity to environmental conditions, cut the bill of materials, and enhance precision and safety.

With digital and analog built-in self-test (BIST) capabilities, input, output and ground loss monitors and a dedicated FAULT pin, using this PMIC substantially simplifies FuSa considerations. Programming, diagnostics, and monitoring are available via SPI, with an MCU watchdog and a regulator status indicator in case of faults or warnings.

Designers can quickly start new projects with the SPSA068 using the dedicated evaluation board, STEVAL-SPSA068.

The SPSA068 is available now in a 32-pin 5.0mm x 5.0mm x 1.0mm QFN package, at a budgetary price of \$1.40.

Please visit www.st.com/spsa068 for more information.

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