DA9231

Configurable PMIC with a 300 mA high efficiency buck Converter and 100 mA LDO/Load Switch

DA9231 is an ultra-low quiescent current high efficiency buck regulator and an ultra-low quiescent current LDO in a compact I^{2}C configurable WLCSP package targeting battery powered applications needing highly efficient power supplies.
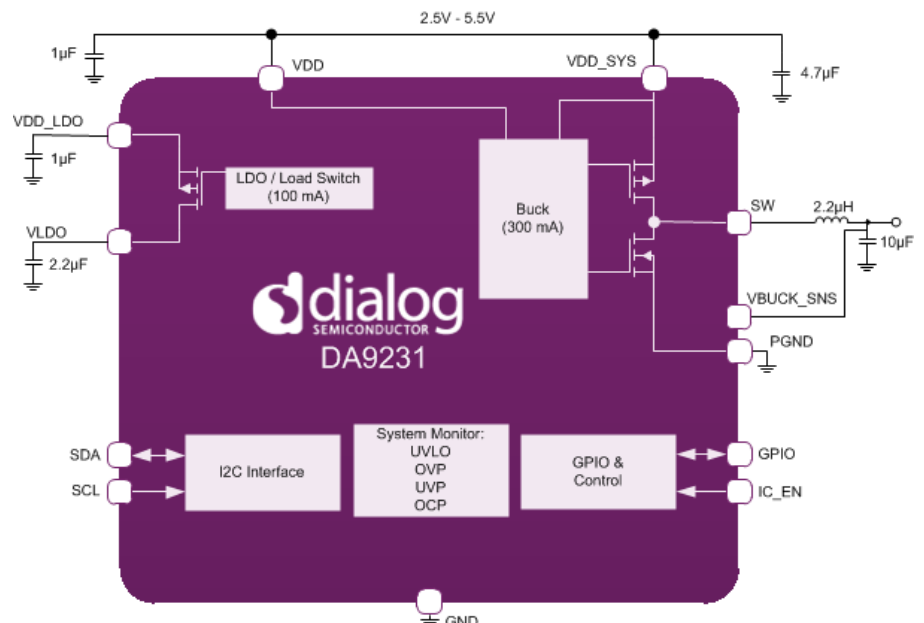
The buck regulator extends high light-load efficiency down to 10 μA further extending battery life. Dynamic Voltage Control (DVC) in the buck regulator facilitates optimization across the system power modes enabling further improvement in System efficiency and battery life.

The low quiescent current LDO can be configured as a Load Switch and provides the second supply output. The LDO's uncommitted inputs can be connected to either the battery or the buck output. Connecting the input to the buck output provides the flexibility to improve the PSRR at the LDO output as needed.

DA9231 also helps future proof for new battery technologies (such as silicon anode) with a minimum supply voltage of 2.5 V and help support 10 nm/14 nm SoC and GPS with the buck regulator minimum output voltage of 0.6 V.

DA9231 provides multiple protection features and comes with the ability to monitor the events and indicators in the GPO pin.

Suitable for space constrained applications, the DA9231 comes in a 1.65 mm x 1.25 mm, 12-pin WLCSP package.

Key Features

► 300 mA buck converter

- 750 nA total input current (buck enabled no load, LDO disabled)
- Up to 81% efficiency at 1.8 V output, 10 µA load current
- Input voltage 2.5 V to 5.5 V
- Output voltage 0.6 V to 1.9 V
- Dynamic Voltage Control (DVC)

► 100 mA LDO/Load Switch

- 1.35 uA total input current (buck and LDO enabled, no load)
- Input voltage 1.8 V to 5.5 V
- Output voltage 0.7 V to 3.3 V

► I^{2}C interface for device configuration and control
► Protection features and System monitors
► Small 1.65 mm x 1.25 mm, 12-pin WLCSP package

Applications

► Wearables – wrist wear, hearables, pet wearables
► Smart devices - thermostats and door locks
► Smoke detectors
► Portable medical devices
► Remote sensors
► High efficiency, low power applications

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