

High Efficiency 10A Synchronous Buck Converter

Features

- Ultra-High Efficiency
- Integrated 8.5mΩ at VDD=5V N-Channel MOSFET for Low Side
- Integrated 20mΩ at VDD=5V N-Channel MOSFET for High Side
- No Current-Sense Resistor (Lossless I_{LIMIT})
- Quasi-PWM with 100ns Load-Step Response
- 1% V_{OUT} Accuracy Over Line and Load
- Programmable Switching Frequency
- 0.75V to 3.6V Adjustable Output Range
- 4.5V to 28V Adapter or Battery Input Range
- Integrated Boost Switch
- OVP & UVP
- Over Temperature Protection (non-latch)
- 3.3ms Soft-Start
- Power-Good Indicator

General Description

G5310 is a 10A, synchronous DC/DC buck converter with integrated 20mΩ N-channel high-side MOSFET and 8.5mΩ N-channel low-side MOSFET. It uses constant on-time control scheme to handle wide input/output voltage ratios with ease and provides 100ns “instant-on” response to load transients while maintaining a relatively constant switching frequency. The G5310 achieves high efficiency at a reduced cost by eliminating the current-sense resistor found in traditional current-mode PWMs. Single-stage buck conversion allows these devices to directly step down high-voltage batteries for the highest possible efficiency. The G5310 is intended for the power supply of Notebook Computer, or other low-voltage supplies as low as 0.75V. The G5310 is available in QFN4X4-28 and QFN5X5-32 package.

Applications

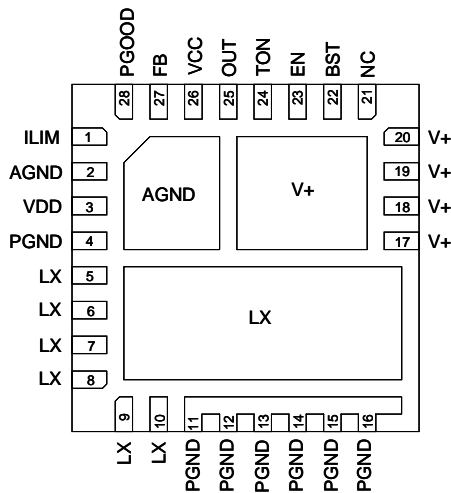
- Notebook Computers
- I/O Supply
- Chipset/RAM Supply as Low as 0.75V
- Networking Power Supply

Ordering Information

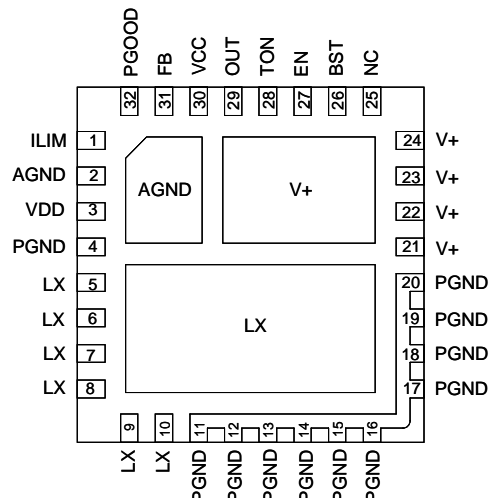
| ORDER NUMBER | MARKING | TEMP. RANGE | PACKAGE (Green) |
|--------------|---------|----------------|-----------------|
| G5310QN2U | 5310 | -40°C to +85°C | QFN4X4-28 |
| G5310QA1U | 5310 | -40°C to +85°C | QFN5X5-32 |

Note: QN: QFN4X4-28 QA: QFN5X5-32
 1,2: Bonding Code
 U : Tape & Reel

Pin Configuration



G5310 QFN4X4-28



G5310 QFN5X5-32

Note: Recommend connecting the Thermal Pad to the Ground for excellent power dissipation.