

## High Efficiency 4A Synchronous Buck Converter

### Features

- Ultra-High Efficiency
- Low Quiescent Current of 30 $\mu$ A
- Integrated 30m $\Omega$  at V5V=5V N-Channel MOSFET for Low Side
- Integrated 30m $\Omega$  at V5V=5V N-Channel MOSFET for High Side
- No Current-Sense Resistor (Lossless I<sub>LIMIT</sub>)
- Quasi-PWM with 100ns Load-Step Response
- 1% V<sub>OUT</sub> Accuracy Over Line and Load
- Programmable Switching Frequency
- 0.9V to 5.5V 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
- Fixed 5V, 10mA Linear Regulator

### General Description

G5333A is a 4A, synchronous DC/DC buck converter with integrated 30m $\Omega$  N-channel high-side MOSFET and 30m $\Omega$  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 G5333A 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 built-in 5V LDO supports 10mA for internal circuits. The G5333A is intended for the power supply as low as 0.9V. The G5333A is available in QFN3X3-21 package.

### Applications

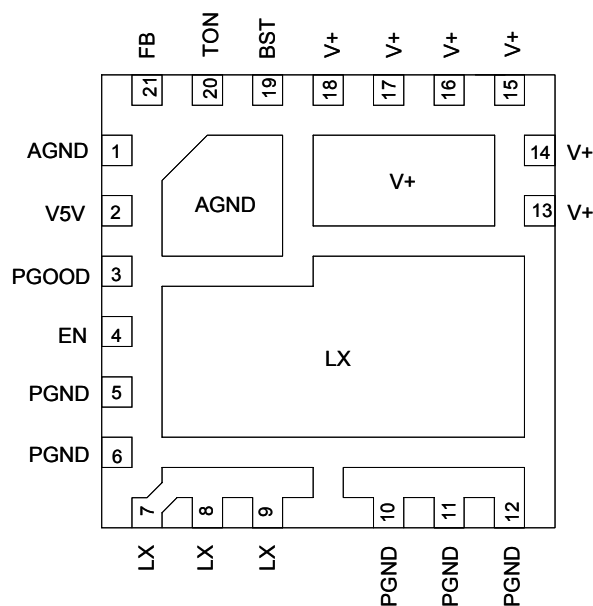
- Networking Power Supply
- I/O Supply

### Ordering Information

ORDER NUMBER	MARKING	TEMP. RANGE	PACKAGE (Green)
G5333AQP1U	5333A	-40°C to +85°C	QFN3X3-21

Note: QP: QFN3X3-21  
 1: Bonding Code  
 U : Tape & Reel

### Pin Configuration



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