

# High Efficiency 8A Synchronous Buck Converter for 3.3V System Power

#### **Features**

- Ultra-High Efficiency
- Low Quiescent Current of 40µA
- Integrated 17mΩ at VCC=5V N-Channel MOSFET for Low Side
- Integrated 20mΩ at VCC=5V N-Channel MOSFET for High Side
- No Current-Sense Resistor (Lossless I<sub>LIMIT</sub>)
- Quasi-PWM with 100ns Load-Step Response
- 1% VOUT Accuracy Over Line and Load
- Programmable Switching Frequency
- 3.0V to 3.6V Adjustable Output Range
- 5.5V to 28V Adapter or Battery Input Range
- Noiseless Pulse-skipping Mode (25kHz min)
- **VCLK Output**
- Integrated Boost Switch
- OVP & UVP
- Over Temperature Protection (non-latch)
- 3.3ms Soft-Start
- **■** Power-Good Indicator
- Fixed 3.3V, 80mA Bootstrapped Linear Regulator

### **General Description**

G5380B is a 8A, synchronous DC/DC buck converter with integrated  $20m\Omega$  N-channel high-side MOSFET and  $17m\Omega$  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 G5380B 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 3.3V LDO supports 80mA for internal circuit with automatic bootstrapping to DC/DC converter output. The G5380B is intended for the 5V system power supply of Notebook Computer. The G5380B is available in QFN4X4-28 package.

#### **Applications**

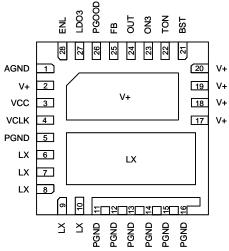
- Notebook Computers
- I/O Supply
- Networking Power Supply

#### **Ordering Information**

ORDER	MARKING	TEMP.	PACKAGE
NUMBER		RANGE	(Green)
G5380BQN1U	5380B	-40°C to +85°C	QFN4X4-28

Note:QN: QFN4X4-28 1: Bonding Code U: Tape & Reel

## **Pin Configuration**



G5380B QFN4X4-28

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