

## High Efficiency 8A Synchronous Buck Converter for 5V System Power

### Features

- Ultra-High Efficiency
- Low Quiescent Current of 40 $\mu$ A
- Integrated 17m $\Omega$  at VCC=5V N-Channel MOSFET for Low Side
- Integrated 20m $\Omega$  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
- 4.5V to 5.5V Adjustable Output Range
- 6V 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 5V, 80mA Bootstrapped Linear Regulator

### General Description

G5380 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 G5380 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 80mA for internal circuit with automatic bootstrapping to DC/DC converter output. The G5380 is intended for the 5V system power supply of Notebook Computer. The G5380 is available in QFN4X4-28 package.

### Applications

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

### Ordering Information

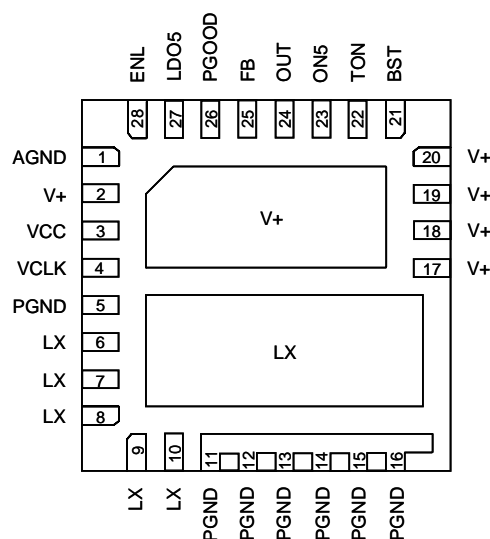
ORDER NUMBER	MARKING	TEMP. RANGE	PACKAGE (Green)
G5380QN1U	5380	-40°C to +85°C	QFN4X4-28

Note: QN: QFN4X4-28

1: Bonding Code

U : Tape & Reel

### Pin Configuration



G5380 QFN4X4-28

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