

24V Input Voltage-Mode Buck PWM Controller

Features

- Drives Two N-Channel MOSFETs
- Operates at 5V to 24V Supply Voltage
- Internal Bootstrap Diode Circuit
- Voltage-Mode PWM Control
- Fast Transient Response
- 0.8V, 2% Accuracy Reference Voltage
- Internal Soft Start
- Constant 300kHz Switching Frequency
- Over-Current Fault Monitors by Using Low-Side MOSFET $R_{DS(ON)}$
- Output Under-Voltage Protection

Applications

- 16V to 30V Input High Power DC-DC Regulators
- Low-Voltage Distributed Power Supplies

General Description

The G5217 provides complete control and protection for a DC-DC converter for high power applications. It is designed to drive two N-channel MOSFETs in a synchronous-rectified buck topology. The G5217 integrates all of the control, bootstrap diode and protection functions into a single package.

The G5217 provides simple, single feedback loop, voltage-mode control with fast transient response. It includes a 300kHz free-running triangle-wave oscillator. The error amplifier features a 15MHz gain-bandwidth product which provides high converter bandwidth for fast transient performance. The resulting PWM duty ratio ranges from 0% to 80%. The reference voltage is 0.8V, 2% accuracy.

The G5217 has internal soft start and executes cycle-by-cycle current limit during soft start interval. The G5217 monitors the current by using the $R_{DS(ON)}$ of the low-side MOSFET which eliminates the need for a current sensing resistor. The under-voltage protection function monitors voltage at FB pin. The over-current and under-voltage events after soft-start interval trigger hiccup mode protection.

Ordering Information

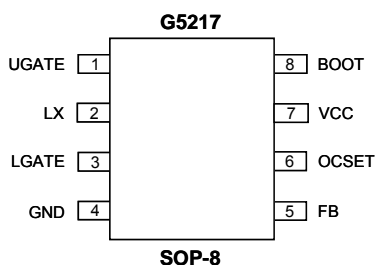
| ORDER NUMBER | MARKING | TEMP. RANGE | PACKAGE (Green) |
|--------------|---------|-------------|-----------------|
| G5217P11U | G5217 | -40°C~+85°C | SOP-8 |

Note: P1: SOP-8

1: Bonding Code

U: Tape & Reel

Pin Configuration



Typical Application Circuit

