



The Future of Analog IC Technology®

MP2145

5.5V, 6A, 1.2MHz, High-Efficiency, 40µA I_Q Constant On-Time Synchronous, Step-Down Switcher

DESCRIPTION

The MP2145 is a monolithic, step-down, switch-mode converter with internal power MOSFETs. It can achieve up to 6A continuous output current from a 2.8V-to-5.5V input voltage with excellent load and line regulation. The output voltage can be regulated to as low as 0.6V.

Constant-on-time control provides a fast transient response and eases loop stabilization. Fault condition protections include cycle-by-cycle current limiting and thermal shutdown.

The MP2145 is available in a small QFN2×3mm package and requires only a minimal number of readily-available, standard, external components.

The MP2145 is ideal for a wide range of applications, including storage (SSD, HDD), high-performance DSPs, FPGAs, and distributed power systems.

FEATURES

- Up to 6A Output Current
- Wide 2.8V-to-5.5V Operating Input Range
- 20mΩ and 12mΩ Internal Power MOSFETs
- 40µA Quiescent Current
- 1.2MHz Fixed Switching Frequency
- 100% Duty Cycle in Dropout
- 1% Feedback Accuracy
- External Mode Control
- External VCON Control
- Adjustable Output from 0.6V
- 1.5ms Internal SS Time with Pre-Bias Startup
- Cycle-by-Cycle Over Current Protection
- Short Circuit Protection with Hiccup Mode
- Stable with Low-ESR Output Ceramic Capacitors
- Thermal Shutdown
- Available in a 2mm×3mm QFN Package
- Output Discharge Function

APPLICATIONS

- Storage (SSD, HDD)
- Portable Instruments
- Battery-Powered Devices

All MPS parts are lead-free, halogen-free, and adhere to the RoHS directive. For MPS green status, please visit the MPS website under Quality Assurance. "MPS" and "The Future of Analog IC Technology" are registered trademarks of Monolithic Power Systems, Inc.

TYPICAL APPLICATION

