



The Future of Analog IC Technology®

MPM3695A-10

14V, 10A, Scalable, Ultra-Thin,
DC/DC Power Module with PMBus

PRELIMINARY SPECIFICATIONS SUBJECT TO CHANGE

DESCRIPTION

MPM3695A-10 is an ultra-thin, scalable and fully integrated power module with PMBus interface. MPM3695A-10 offers a complete power solution that achieves up to 10A of continuous output current with excellent load and line regulation over a wide input voltage range. MPM3695A-10's 1.6mm height enables it to be placed on the back-side of a PCB for space optimization. MPM3695A-10 operates at a high efficiency over a wide load range and can be paralleled to deliver up to 60A of continuous current.

MPM3695A-10 adopts MPS's proprietary, multi-phase constant-on-time (MCOT) control, which provides ultra-fast transient response and simple loop compensation. The PMBus interface provides module configurations and monitoring of key parameters.

MPM3695A-10 features full protection functions including over-current protection (OCP), over-voltage protection (OVP), under-voltage protection (UVP), and over-temperature protection (OTP).

MPM3695A-10 requires a minimal number of readily available external components and is available in a QFN-45 (8mmx8mmx1.6mm) package.

FEATURES

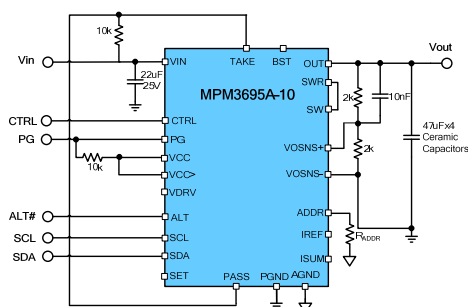
- Wide Input Voltage Range from 3V
 - 3V-14V Input Voltage with an External V_{CC} Bias
 - 4V-14V Input Voltage with Internal V_{CC}
- 0.5V to 1.8V Output Voltage Range
- 10A Continuous Output Current, Parallel for Up to 60A Continuous Current
- Auto-Interleaving for Multi-Phase Operation
- 0.5% Reference Voltage Accuracy Over 0°C to +70°C Junction Temperature Range
- Remote Sense of the Output Voltage
- PMBus 1.3 Compliant
- Telemetry Read-back Including V_{IN} , V_{OUT} , I_{OUT} , Temperature, and Faults
- Programmable via PMBus
 - Output Voltage, Soft-start time
 - OC/OT/OV/UV/UVLO Limits
 - PWM Mode and Switching Frequency
- Available in a QFN-45 (8mmx8mmx1.6mm) Package

APPLICATIONS

- Telecom and Networking Systems
- Industrial Equipment
- Servers and Computing
- FPGA and ASIC power

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



Application circuit for single phase operation at 1.2V output

12V INPUT EFFICIENCY

