



DESCRIPTION

The MP2855 is a dual-loop, digital, multi-phase controller that provides power for the core of the AMD SVI2 2.0 platform. The device can work with MPS's Intelli-Phase™ products to complete the multi-phase voltage regulator (VR) solution with minimal external components. The MP2855 can be configured with up to 9-phase operation for rail 1 and up to 4-phase operation for rail 2.

The MP2855 provides an on-chip NVM to store and restore device configurations. Device configurations and fault parameters can be easily configured or monitored via the PMBus/I²C interface. The device can monitor and report output current through the CS output from Intelli-Phase™ products.

The MP2855 is based on unique, digital, multi-phase, nonlinear control to provide a fast transient response to the load transient with minimal output capacitors. With only one power loop control method for both steady state and load transient, the power loop compensation is easy to configure.

The device is available in a TQFN-40 (5mmx5mm) package.

FEATURES

- Multi-Phase, Dual-Output, Digital Controller
- AMD SVI2 Compliant
- PMBus/I²C-Compatible (1MHz Bus Speed)
- Configurable Pin for PMBus Address
- Built-In NVM to Store Custom Configurations
- 200kHz to 3MHz Switching Frequency
- Automatic Loop Compensation
- Fewer External Components than a Conventional Analog Controller
- Best Transient Performance with Nonlinear Digital Control
- Flexible Phase Assignment for Dual Rails
- Automatic Phase-Shedding to Improve Overall Efficiency
- Phase-to-Phase Active Current Balancing with Configurable Offsets for Thermal Balance
- Input and Output Voltage, Current, and Power Monitoring
- Regulator Temperature Monitoring
- V_{IN} UVLO, Output OVP/UVP, OCP_TDC/OCP_SPIKE, OTP with No Action, Latch, Retry, or Hiccup Mode
- Intelli-Phase™ MOSFET Fault Type Detection
- Auto-Records the VR Fault Type to the NVM
- Digital Load-Line Regulation
- Overclocking Mode by Adding Offset to Output Voltage
- RoHS-Compliant
- Available in a TQFN-40 (5mmx5mm) Package

APPLICATIONS

- AMD Fusion CPU/GPU Core Power
- DDRs
- Telecom and Networking Systems
- Base Stations

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