RSM6G02 2.5V to 15V 140A Two-Phase Smart Power Block

Features

Performance

- Wide 2.5 V to 16 V input voltage range
- Up to 140 A continuous output current (70 A per phase)
- Up to 2 MHz switching frequency
- Peak efficiency up to 91%

High Integration

- Dual independent outputs configurable for dual-rail operation or paralleled for up to 140 A output current
- Integrated smart drivers, MOSFETs, and inductors
- Accurate current and junction temperature sensing
- Integrated power stage reduces PCB area and I^2R losses

Robust Protection

- VIN and VDRV UVLO
- High-side overcurrent protection
- Cycle-by-cycle current limiting
- Overtemperature protection (OTP)

Wide-Input Support

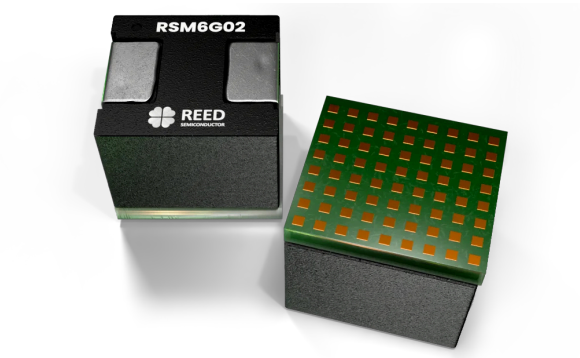
- Optimized for 12 V intermediate bus architectures
- Supports wide input voltage operation up to 16 V
- Ideal for networking, telecom, and industrial power systems

Package

- Compact 10 mm × 9 mm × 8 mm, 72-pin LGA package
- Operating junction temperature: −40°C to +125°C
- RoHS compliant

Applications

- AI Accelerators
- GPUs
- FPGA and ASIC Core Power
- Servers and Data Centers
- High-Performance Computing (HPC)



Description

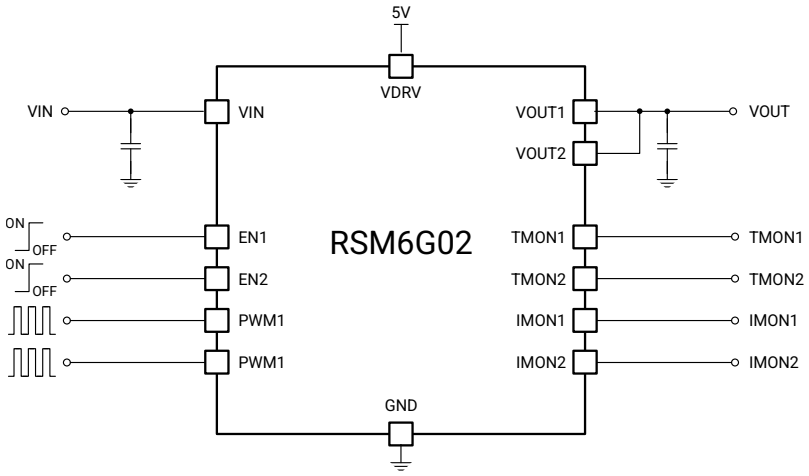
The RSM6G02 is a highly integrated 140 A (70 A/phase) two-phase DC-DC power block optimized for wide-input applications from 2.5 V to 16 V. By integrating smart gate drivers, power MOSFETs, and inductors into a compact package, it simplifies high-current power supply design while reducing PCB area, routing complexity, and external components.

Designed for networking, telecommunications, industrial computing, AI accelerators, and high-performance server platforms, the RSM6G02 supports dual independent outputs or parallel operation while providing exceptional integration and system flexibility.

Combined with Reed Semiconductor's multiphase DC-DC controllers, the RSM6G02 provides a complete, scalable power solution for high-current computing and AI applications.

Integrated current sensing, junction temperature monitoring, undervoltage lockout (UVLO), overcurrent protection, cycle-by-cycle current limiting, and overtemperature protection provide reliable operation and simplify system design. The compact 10 mm × 9 mm × 8 mm, 72-pin LGA package is optimized for automated assembly and low-profile thermal solutions.

Typical Application Circuit



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