

RSM3514 1500W Non-Isolated 4:1 Ratio IBC with PMBus

Features

Power Conversion Performance

- 40V to 60V Input Voltage Range
- 10 V o 15V Output Voltage Range
- Up to 1500W Continuous Output Power
- Up to 2500W Transient Output Power
- Up to 98.1% Efficiency

Scalability and System Integration

- Parallel Operation for Multi-kW Arrays
- Fixed 4:1 transformer turns ratio

Digital Control and Telemetry

- Configuration and Monitoring via PMBus
- Non-Volatile Memory (NVM) for custom configuration
- Input Voltage, Output Voltage, Output Current, and Temperature Monitoring

Protection Features

- Auto-Recovery Mode for UVP, OTP, and OCP

Package and Assembly

- 23mm × 17.4mm × 8mm LGA Package
- Reflow Soldering (MSL 3)

Applications

- Artificial Intelligence Systems
- Data Center
- Networking Systems

Typical Application Circuit

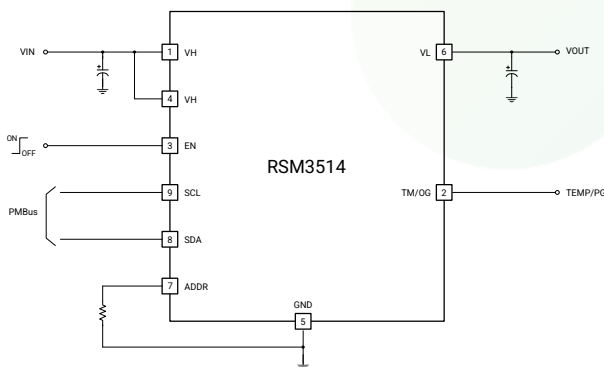


Figure 1. Typical Application

Description

The RSM3514 is a high-efficiency, non-isolated intermediate bus converter (IBC) with a fixed 4:1 transformer turns ratio and integrated digital control. Designed for AI, data center, and high-performance computing applications, it converts a 40V to 60V input bus to a regulated 10V to 15V output.

The module delivers up to 1500W continuous output power and supports 2500W transient loads with efficiency up to 98.1%, enabling high-density power architectures while reducing power loss and thermal management requirements. Multiple modules can be paralleled to support multi-kilowatt systems.

Integrated PMBus support enables configuration, telemetry, and fault reporting. Input voltage, output voltage, output current, temperature, and fault status can be monitored through the PMBus interface, while user settings can be stored in non-volatile memory. The RSM3514 is available in a compact 23mm × 17.4mm × 8mm LGA package



Efficiency

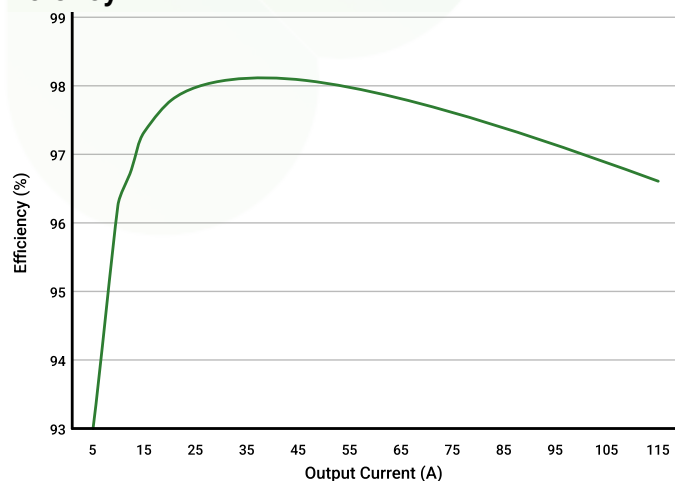


Figure 2. Typical Efficiency Curve (VH = 54V)