

RSM3512 2000W Non-Isolated, Regulated 12V IBC Power Module with PMBus

Features

Performance

- 40V to 60V input voltage range
- Regulated 12V output voltage
- Up to 2000W continuous output power
- Up to 3000W transient output power
- Peak efficiency up to 98%

Digital Control & Telemetry

- PMBus interface for configuration, monitoring, and telemetry
- Stores and restores configuration settings
- Reports input voltage, output voltage, output current, temperature, and fault status

Scalability

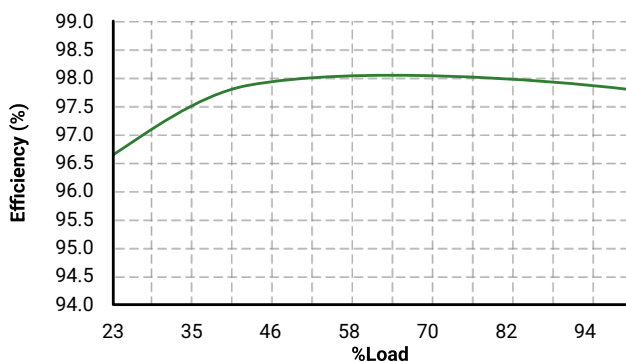
- Integrated active current sharing for simplified parallel operation
- Supports parallel operation for multi-kW power systems
- Optimized for AI, HPC, and distributed power architectures

Package

- Industry-standard quarter-brick package (58.4 mm × 36.8 mm × 13.9 mm)
- Wave and reflow soldering compatible (MSL 3)
- UL62368-1 recognized (pending)
- RoHS compliant

Applications

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



Efficiency Curve ($V_{IN} = 54V$)

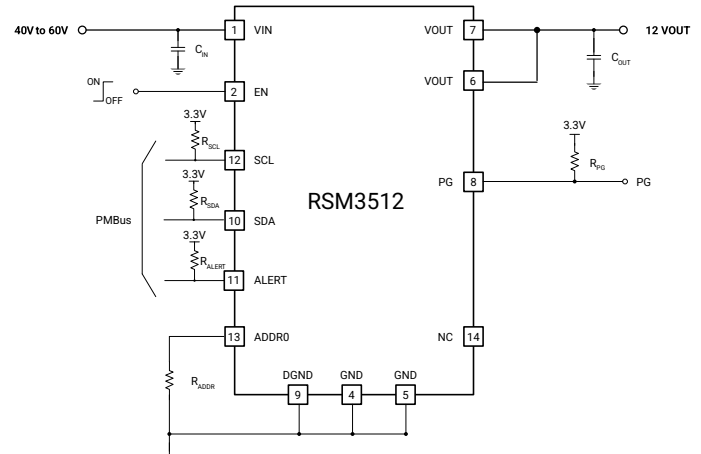
Description

The RSM3512 is a high-efficiency, non-isolated 2000W Digital Intermediate Bus Converter (IBC) that converts a 40V to 60V intermediate bus to a tightly regulated 12V output. Delivering up to 2000W of continuous output power (3000W transient) with peak efficiency up to 98%, the RSM3512 provides a compact, high-density front-end power solution for AI accelerators, GPUs, FPGAs, ASICs, networking equipment, and high-performance computing (HPC) systems.

An integrated digital controller with PMBus enables configuration, telemetry, and fault management while monitoring input voltage, output voltage, output current, temperature, and device status. Configuration settings can be stored and restored, simplifying system commissioning, diagnostics, and field management.

Integrated active current sharing enables straightforward parallel operation to support multi-kilowatt power architectures with balanced load distribution. Designed to operate seamlessly with Reed Semiconductor's multiphase DC-DC controllers, the RSM3512 forms the foundation of a complete distributed power solution. Together with [Reed's multiphase controllers](#), [Smart Power Blocks](#), and [Smart Power Stages](#), it enables highly efficient power conversion from the intermediate bus to high-current processor rails in next-generation AI and data center platforms. The RSM3512 is offered in an industry-standard quarter-brick package with an integrated heat-spreader for simplified thermal management and high-power operation.

Typical Application Circuit

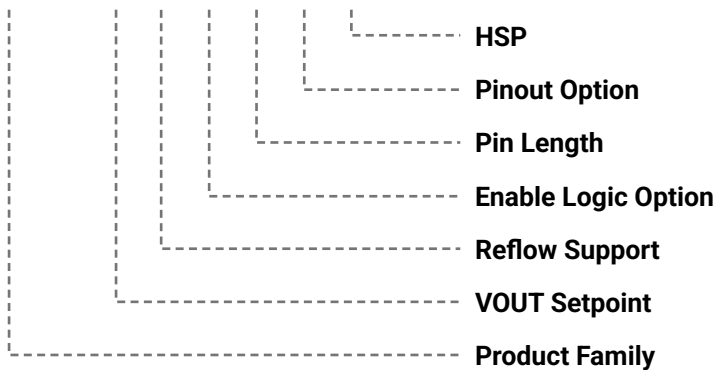


Orderable Options

PART NUMBER	ACTIVE CURRENT SHARING	REMOTE SENSE	ENABLE LOGIC ACTIVE	REFLOW SUPPORT	HEAT-SINK PLATE (HSP)	VOUT
RSM3512LCH	Yes	No	High	No	Yes	12.24
RSM3512LCHNRF	Yes	No	Low	Yes	Yes	12.50

Part Number Definition

RSM3512 (1) (2) (3) (4) (5) (6)



PART NUMBER POSITION	FEATURE	DETAILS
RSM3503	Product Family	1600W Non-isolated, 12V Regulated IBC with PMBus
(1)	Pin Length Option	S = Short (0.11") N = Normal (0.145") L = Long (0.17")
(2)	Pinout Option	C = Active current sharing Pin 9 = DGND Pin 14 = ISHARE D = Standard pinout (Pins 1 – 14) E = Pins 4 & 7 omitted F = Pins 8, 9 & 14 omitted S = Remote-sense option Pin 9 = VOUT_SENSE- Pin 14 = VOUT_SENSE+
(3)	HSP Option	H = Heat-spreader plate O = Open-frame
(4)	Enable Logic	N = Negative (active low) enable P = Positive (active high) enable
(5)	Reflow Support	N = Reflow not supported R = Reflow supported
(6)	VOUT Setpoint	A = 12.00V C = 12.24V D = 12.30V F = 12.50V

Note: To improve clarity, this datasheet explicitly identifies all configurable ordering options. Earlier part numbers that omitted default option designators remain valid and fully supported.