FDMF5068

Smart Power Stage (SPS) Modules with Integrated Current and Temperature Monitors

Product Overview

For complete documentation, see the data sheet.

The FDMF5068 is ON Semiconductor's next generation Smart Power Stage (SPS) solution with fully optimized, ultracompact, integrated MOSFETs with advanced driver IC current and temperature sensors, for highcurrent, high frequency, and synchronous buck DCDC converters.
With an integrated approach, the SPS switching power stage is optimized for driver and MOSFET dynamic performance, system parasitic reduction, and power MOSFET RDS(ON).
The integration of Power MOSFETs with a driver IC also enables high accuracy modulelevel thermal and current monitoring. The FDMF5068 provides an output signal (IMON), which reports the realtime module current. The IMON signal can be used to replace inductor DCR current sense or resistor sense methods. There is also accurate thermal monitoring (TMON) that provides a 0.8 V output at 25°C with an 8 mV/°C slope.

Features

- Up to 70A Instantaneous Peak Current Handling Capability

- High-Performance, Universal Footprint, Copper-Clip 5 mm x 6 mm PQFN Package

- ON Semiconductor's PowerTrench® MOSFETs for Clean Voltage Waveforms and Reduced Ringing

- 30V / 25V Breakdown Voltage MOSFETs for Higher Long Term Reliability

- Optimized for Switching Frequencies up to 1 MHz

- Optimized FET Pair for Highest Efficiency at 10% ~ 15% Duty Cycle

- Integrated Temperature Monitoring (TMON)

- Integrated Current Monitoring (IMON)

- Catastrophic Fault Detection

- Thermal Flag (OTP) for Over-Temperature Condition
  For more features, see the data sheet

Benefits

- High Current Capability

Applications

- Telecom, Networking, Storage Voltage Regulators

- High-Current Multiphase Voltage Regulators

- Telecom, Networking, Storage ASICs

- DC/DC Power Module

End Products

- Artificial Intelligence Add-On Cards

- Telecom, Networking, Storage

Part Electrical Specifications

Product	Pricing ($/Unit)	Compliance	Status	V_{CIN} (V) Typ	V_{IN} (V) Typ	PWM Level	I_O (A) Max	f_{max} (MHz) Max	Package Type
FDMF5068	1.9666	Pb H	Active	5	12	3.3V, 5V	70	1	PQFN-39