

35 A VRPower® Integrated Power Stage

(Datasheet in Brief)

DESCRIPTION

The SiC547 is an integrated power stage solution optimized for synchronous buck applications to offer high current, high efficiency, and high power density performance. Packaged in Vishay's proprietary 4.5 mm x 3.5 mm MLP package, SiC547 enables voltage regulator designs to deliver up to 35 A continuous current per phase.

The internal power MOSFETs utilize Vishay's state-of-the-art Gen IV TrenchFET technology that delivers industry benchmark performance to significantly reduce switching and conduction losses.

The SiC547 incorporates an advanced MOSFET gate driver IC that features high current driving capability, adaptive dead-time control, an integrated bootstrap Schottky diode, and zero current detection to improve light load efficiency. The driver is also compatible with a wide range of PWM controllers, supports tri-state PWM, and 5 V PWM logic.

A user selectable diode emulation mode (ZCD_EN#) is included to improve the light load performance. The device also supports PS4 mode to reduce power consumption when system operates in standby state.

FEATURES

- Thermally enhanced PowerPAK® MLP4535-22L package
- Vishay's Gen IV MOSFET technology and a low-side MOSFET with integrated Schottky diode
- Delivers up to 35 A continuous current, 45 A at 10 ms peak current
- High efficiency performance
- High frequency operation up to 2 MHz
- Power on reset
- 5 V PWM logic with tri-state and hold-off
- Supports PS4 mode light load requirement for IMVP8 with low shutdown supply current (5 V, 3 μ A)
- Under voltage lockout for V_{CIN}
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT
HALOGEN
FREE

APPLICATIONS

- Multi-phase VRDs for computing, graphics card and memory
- Intel IMVP-8 VRPower delivery
 - V_{CORE} , $V_{GRAPHICS}$, $V_{SYSTEM\ AGENT}$ Skylake, Kabylake platforms
 - V_{CCGI} for Apollo Lake platforms
- Up to 24 V rail input DC/DC VR modules

TYPICAL APPLICATION DIAGRAM

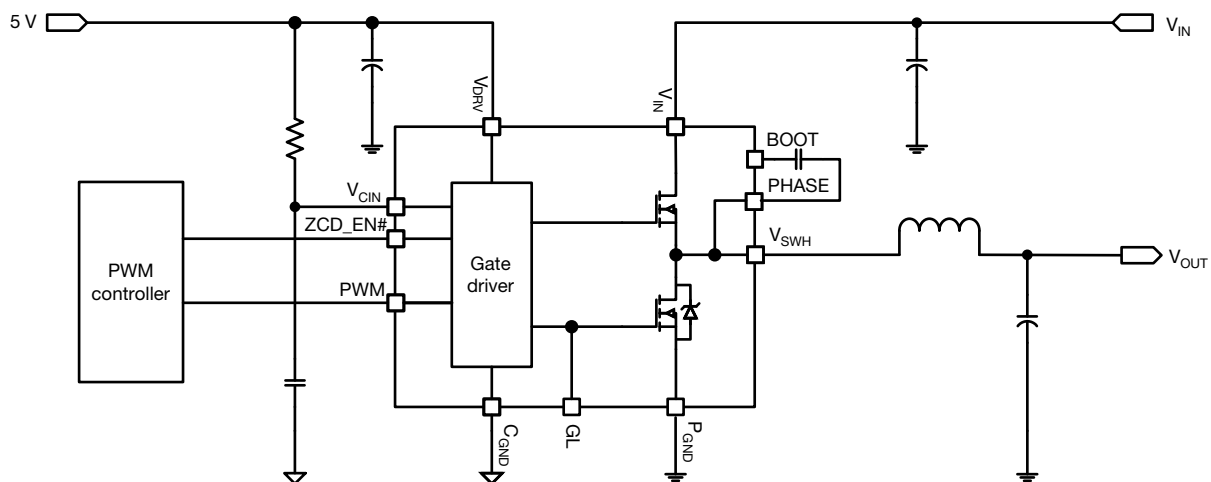


Fig. 1 - Typical Application Diagram



PRODUCT SUMMARY	
Part number	SiC547
Description	35 A power stage, 4.5 V _{IN} to 24 V _{IN} , 5 V PWM with ZCD, PS4 mode
Input voltage min. (V)	4.5
Input voltage max. (V)	24
Continuous current rating max. (A)	35
Switch frequency max. (kHz)	2000
Enable (yes / no)	No
Monitoring features	-
Protection	UVLO
Light load mode	ZCD, PS4
Pulse-width modulation (V)	5
Package type	PowerPAK MLP4535-22L
Package size (W, L, H) (mm)	4.5 x 3.5 x 0.75
Status code	1
Product type	VRPower (DrMOS)
Applications	Computer, industrial, networking

To request the full version of the datasheet, please contact: ICmarketing@vishay.com

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