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Product Information Notification

Product Group: SIL/Thu Apr 4, 2024/PIN-SIL-000503-2024-REV-0



SIC533 Datasheet Update

For further information, please contact your regional Vishay office.

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Description of Change: Current datasheet describes peak current to be 40A. Further application validation shows the peak current rating can be increased to 45A.

Reason for Change: 45A peak current capability is desired for some applications.

Expected Influence on Quality/Reliability/Performance: There will be no effect on performance, quality or reliability.

Part Numbers/Series/Families Affected: SiC533CD-T1-GE3

Vishay Brand(S): Vishay Siliconix

Time Schedule:

Start Shipment Date: Mon May 6, 2024


Sample Availability: Samples are available now

Product Identification: Lot Number and Country of Origin

Qualification Data: Available upon Request

Issued By: Lisette Saba, malinalisette.saba@vishay.com

Updated Datasheet

www.vishay.com

SiC533
Vishay Siliconix

35 A VRPower® Integrated Power Stage

DESCRIPTION

The SiC533 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, SiC533 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 SiC533 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 µA)
- Under voltage lockout for V_{CIN}
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

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



Previous Datasheet

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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, 40 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 µA)
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