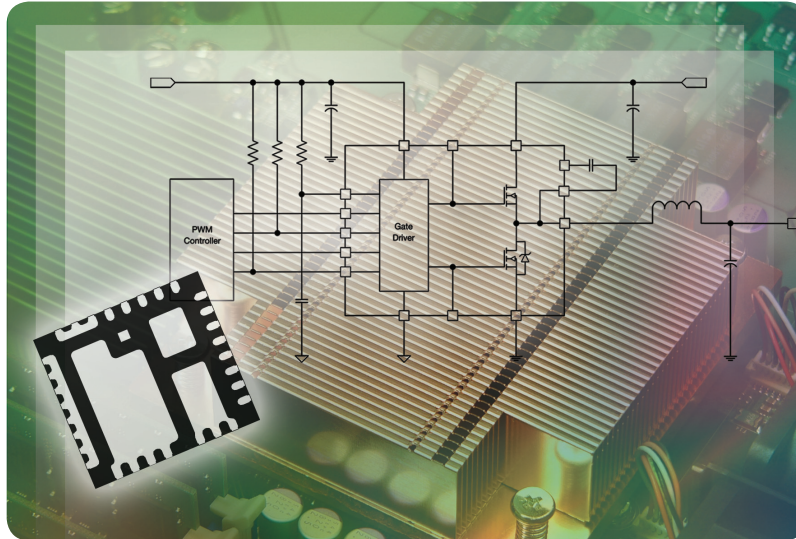


VRPower® 50 A Integrated Power Stage



The new VRPower® SiC620A is an integrated power stage solution optimized for synchronous buck applications that offers high current, high efficiency and high power density performance. Packaged in Vishay's proprietary 5x5 mm MLP package, the SiC620A enables voltage regulator designs to deliver in excess of 50 A per phase current. The internal power MOSFETs utilize Vishay's state-of-the-art TrenchFET® Gen IV technology, delivering industry benchmark performance that significantly reduces switching and conduction losses.

KEY BENEFITS

- Thermally enhanced PowerPAK® MLP55-31L package
- Optimized MOSFET switching performance with integrated Schottky diode for the low side
- Delivers in excess of 50 A continuous current
- 95 % peak efficiency
- High-frequency operation up to 1.5 MHz
- Power MOSFETs optimized for 12 V input stage

APPLICATIONS

- Synchronous buck converters
- Multi-phase VRDs for CPU, GPU, and memory
- DC/DC VR modules

RESOURCES

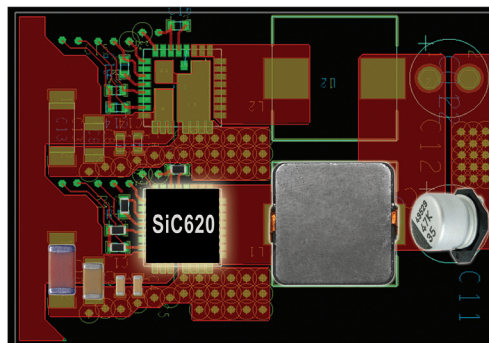
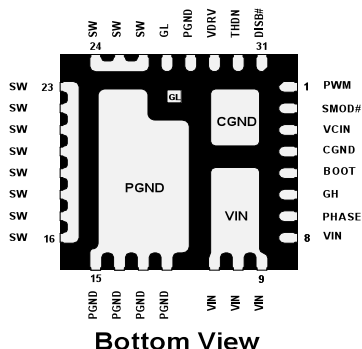
- SiC620A datasheet pending release
- Complete Power IC product portfolio <http://www.vishay.com/power-ics/>
- Technical support: PowerICtechsupport@vishay.com

One of the World's Largest Manufacturers of
Discrete Semiconductors and Passive Components



VRPower® 50 A Integrated Power Stage

The SiC620A incorporates an advanced MOSFET gate driver IC that features high current driving capability, adaptive dead-time control, an integrated bootstrap Schottky diode, and thermal warning (THDN) feature that alerts the system to excessive junction temperatures. This driver is also compatible with wide range of PWM controllers with the support of tri-state PWM, 3.3 V PWM logic, and skip mode (SMOD) for improved light load efficiency.



ORDERING INFORMATION

Part Number	Package	Marking Code
SiC620ACD-T1-GE3	PowerPAK MLP55-31L	SiC620A
SiC620ADB	Reference Board	

ABSOLUTE MAXIMUM RATINGS (NOTE 1)

Electrical Parameter	Symbol	Limits	Unit
Input Voltage	V_{IN}	-0.3 to 30	V
Control Input Voltage	V_{CIN}	-0.3 to 7	V
Drive Input Voltage	V_{DRV}	-0.3 to 7	V
Switch Node (DC)	V_{SW}	-0.3 to 30	V
Switch Node (AC) ^{Note 2}		-8 to 35	V
Boot Voltage (DC Voltage)	V_{BS}	-0.3 to 37	V
Boot to Switching Node (DC Voltage)	V_{BS_SW}	-0.3 to 7	V
All Logic Inputs and Outputs (PWM, DSBL, SMOD & THDN)		-0.3 to $V_{CIN} + 0.3$	V
Max. Operating Junction Temperature	T_J	150	°C
Ambient Temperature	T_A	-40 to 125	°C
Storage Temperature		-65 to 150	°C