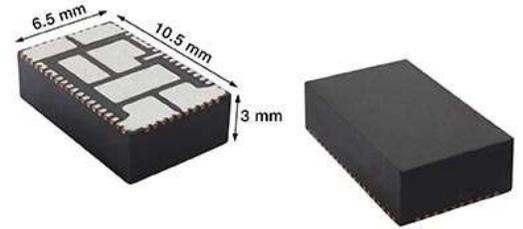


# New 6 A, 20 A, and 25 A microBRICK<sup>®</sup> Regulator Modules in a 10.6 mm by 6.5 mm by 3 mm Package Are Up to 69 % Smaller Than Competing Solutions to Increase Power Density for POL Converters, Feature Wide Input Voltage Ranges From 4.5 V to 60 V

## Product Benefits:

- Efficiently delivers power to FPGAs, ASICs, and SoC core power supplies
- Integrates high and low side MOSFETs, a PWM controller, plus an inductor
- Output currents up to 25 A in a 10.6 mm by 6.5 mm by 3 mm package
- Versatile
  - 6 A (SiC967), 20 A (SiC931), and 25 A (SiC951) options
  - Input voltages from 4.5 V to 60 V
  - Adjustable output voltages down to 0.3 V
- Highly efficient
  - Consume minimum quiescent current
  - Peak efficiency up to 97 %
- Highly configurable
  - Programmable switching frequencies at 600 kHz, 1 MHz, 1.5 MHz, and 2 MHz (SiC931)
  - Adjustable switching ranges from 100 kHz to 2 MHz (SiC967) and 300 kHz to 1.5 MHz (SiC951)
  - Adjustable current limit
  - Adjustable soft start (SiC931)
  - Support for sequential, tracking, and simultaneous operation (SiC951)
  - The SiC951 and SiC967 offer three operating modes: forced continuous conduction, ultrasonic, and power save
  - The SiC931 offers two operating modes: forced continuous conduction and power save mode
- PMBus 1.3 compliant (SiC951)
- Robust and reliable
  - Output overvoltage (OVP) and undervoltage protection (UVP)
  - Cycle by cycle overcurrent protection (OCP)
  - Short circuit protection (SCP) with auto retry
  - Over temperature protection (OTP)
  - Power good flag



## Market Applications:

- SiC951: POL converters in servers, cloud computing, high performance computing, and 5G telecom
- SiC931: Desktop computers, TV, consumer electronics
- SiC967: e-bikes, industrial automation, motor drives, tools, surveillance systems



## The News:

Vishay Intertechnology announces new 6 A, 20 A, and 25 A microBRICK synchronous buck regulator modules designed to deliver increased power density and efficiency for point of load (POL) converters. Offered in a 10.6 mm by 6.5 mm by 3 mm package, the Vishay Siliconix SiC931, SiC951, and SiC967 are the smallest such devices on the market — with the lowest height — and feature wide input voltage ranges from 4.5 V to 60 V.

- Up to 69 % smaller than other solutions, the regulator modules each offer two high performance MOSFETs, a controller, and an inductor, with only minimal external components needed for configuration and loop compensation
- The devices' compact size dramatically increases power density, while their high level of integration reduces design complexity and time to market
- In power-saving mode, when the inductor current crosses zero, the control scheme turns off the low side MOSFET to deploy a diode emulation mode. The switching frequency decreases in proportion to load conditions. There is no minimum switching frequency limitation, allowing for the best possible efficiency at light loads
- The devices' constant on-time (COT) architecture delivers ultrafast transient response with minimum output capacitance and tight ripple regulation at very light loads. It also enables loop stability regardless of the type of output capacitor used, including low ESR ceramic capacitors

## The Key Specifications:

| Part # | V <sub>IN</sub> range | V <sub>OUT</sub> | Current | Package            |
|--------|-----------------------|------------------|---------|--------------------|
| SiC931 | 4.5 V to 18 V         | 0.6 V to 5.5 V   | 20 A    | PowerPAK MLP60-A6C |
| SiC951 | 4.5 V to 20 V         | 0.3 V to 5.5 V   | 25 A    | PowerPAK MLP59-A6C |
| SiC967 | 4.5 V to 60 V         | 0.8 V to 15 V    | 6 A     | PowerPAK MLP54-A6C |

## Availability:

Samples and production quantities of the new regulator modules are available now, with lead times of 20 weeks.

To access the product datasheets on the Vishay Website, go to

<http://www.vishay.com/ppg?79602> (SiC931)

<http://www.vishay.com/ppg?71554> (SiC951)

<http://www.vishay.com/ppg?76444> (SiC967)

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