Power modules
Ultra-compact µDC-DC converters

November 4, 2014

TDK Corporation presents a new series of ultra-compact EPCOS µDC-DC converters. They feature a footprint of only 2.9 mm x 2.3 mm and an insertion height of 1 mm. One 6-MHz power switch is embedded in the miniature PCB. The integrated power module saves up to 35 percent space compared with conventional discrete solutions.

The modules are designed for an input voltage range of 2.2 V DC and 5.5 V DC. The new B30000P80* series encompasses eight types offering output voltages from 1.10 V DC to 2.80 V DC. Their maximum output current is 600 mA. The modules feature overload protection and shut down automatically at excess temperatures. As the converters are designed mainly for battery-powered devices, their efficiency is crucial: The new µDC-DC converters achieve a very high efficiency of 92 percent. The modules can be shut down via an enable input. In this case, the supply current drops to below 1 µA, drastically reducing power consumption. Under light loads the modules operate in power-save mode using PFM (pulse frequency modulation) with a typical low quiescent current of 24 µA. The module also features a very fast load transient response. The extremely low ripple voltages and currents also allow light loads to be handled without additional filtering.

The new EPCOS µDC-DC converters are suitable for wearable devices and smart watches as well as for WLAN, GPS and Bluetooth applications. These highly efficient µDC-DC converters can also be used in camera and sensor modules, optical modules, memory cards, and other battery-powered devices.

Main applications

- Wearable devices and smart watches
- WLAN, GPS and Bluetooth applications
- Camera and sensor modules
- Optical modules
- Memory cards
- Other battery-powered devices

Main features and benefits

- Miniature footprint of only 2.9 mm x 2.3 mm and an insertion height of 1 mm
- Overload protection and thermal shutdown
- High efficiency of 92 percent
- Low ripple voltage

About TDK Corporation

TDK Corporation is a leading electronics company based in Tokyo, Japan. It was established in 1935 to commercialize ferrite, a key material in electronic and magnetic products. TDK's portfolio includes electronic components, modules and systems* marketed under the product brands TDK and EPCOS, power supplies, magnetic application products as well as energy devices, flash memory application devices, and others. TDK focuses on demanding markets in the areas of information and communication technology and consumer, automotive and industrial electronics. The company has a network of design and manufacturing locations and sales offices in Asia, Europe, and in North and South America. In fiscal 2014, TDK posted total sales of USD 9.6 billion and employed about 83,000 people worldwide.

* The product portfolio includes ceramic, aluminum electrolytic and film capacitors, ferrites, inductors, high-frequency components such as surface acoustic wave (SAW) filter products and modules, piezo and protection components, and sensors.

You can download this text and associated images from www.epcos.com/pressreleases.

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