DC-DC Converters Enable New Level of Miniaturization

Murata Power Solutions is set to change the shape of 1.0 Watt isolated surface-mount DC-DC converters. The introduction of its high performance MTU1 series marks a step-change in the miniaturization of power modules, setting new standards for footprint, load regulation, and efficiency. The series is suited for application segments where an isolated surface mount DC-DC is needed.
The latest design techniques and materials have been used to reduce the module's footprint while improving electrical performance characteristics. The MTU1 series' dimensions are 8.2 x 8.4 x 8.5 mm, representing a footprint reduction of 50% compared to the previous generation. Power density is 1.71 W/cm3 and the series features wide temperature performance at full 1.0 Watt load, between -40 and 85ºC. The series' load regulation has been enhanced to only 7.5%, a change of 40%.

The DC-DC converter also features 56% less power dissipation and lower running temperatures than its predecessor, improving overall efficiency by more than a fifth to 89%. The increase in efficiency and benefit of reduction in power dissipation enables the series' open frame design. The greatly improved efficiency of the MTU1 series also contributes to its lower energy consumption and greater reliability.

Eight models are currently available in the MTU1 series, featuring a choice of 5 or 12 V input voltage and 5, 9, 12, or 15 V output voltage. The modules each have a single output, isolated to 1 kVDC. All are RoHS-compliant.

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