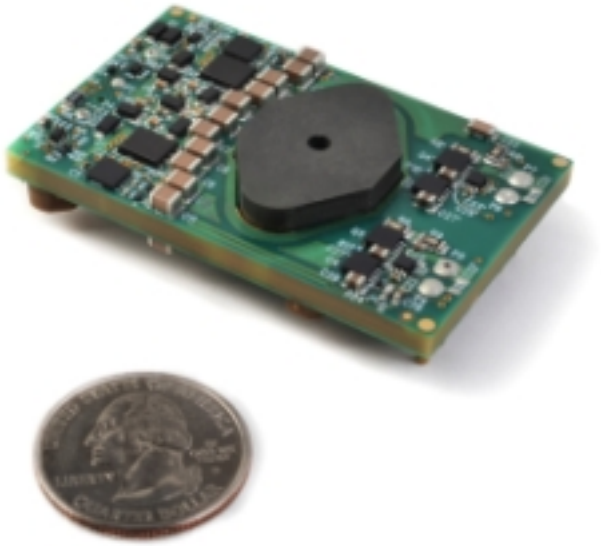
Isolated Quarter-Brick Uses New Power Topology



CUI Inc introduced the engineering release and initial customer sampling of the NQB Series isolated dc-dc quarter brick based on their patented Solus Power Topology. As part of CUI's Novum Advanced Power portfolio, the 720 W intermediate bus converter will initially support an input range of 36-60 V with an output of 12 V and will provide an efficiency greater than 96%. The NQB product will eventually support a wider input range as well as an output of 9.6 V. Additional features include options for DOSA 1st generation or 2nd generation footprint compatibility, remote on/off, and load share capability. The NQB Series aims to address the trend of rising power requirements and efficiency demands in telecom systems and data centers, supplying an industry leading power density of 445 W/in3 across the full 36-60 V input range.

CUI's Solus Topology integrates a conventional buck converter into a SEPIC converter to form a totally new SEPIC-fed buck converter; a patented single stage topology with one magnetic element, one control switch and two commutation switches that are optimally controlled by pulse-width modulation (PWM). With lower voltage and current stresses in the topology coupled with an inherent GCE (gate charge extraction) process, Solus is able to reduce switching turn-on losses by 75% and switching turn-off losses by 99% on the control FET when compared to a conventional buck converter. The Solus Topology further increases total efficiency by distributing the energy delivery into multiple paths, reducing circuit conduction losses by nearly 50%. With these advantages, CUI is now in a position to develop a wide range of ac-dc and dc-dc power conversion platforms with greatly improved energy efficiency, faster transient response and increased power density versus the leading designs currently on the market.

"This is the first product of many that will be based on the Solus Topology. The flexibility of the Solus Topology will allow us to not only incorporate it into an

isolated dc-dc solution, but will also move to our non-isolated dc-dc and ac-dc product roadmaps," said Mark Adams, CUI's VP of Advanced Power Marketing.

"In today's green world where efficiency and density is king, we believe our Solus Topology will be a difference maker in the market for years to come," concluded Adams.

CUI has been sampling the NQB product to select customers and will continue to provide engineering samples to select customers until full production release in Q1 2012.

For more information, please visit www.cui.com [1].

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[1] http://www.cui.com