

Ericsson's ultra optimized DC/DC module provides more power and higher efficiency than predecessor

Based on a cost optimized platform that has contributed to make Ericsson Power Modules' quarter-brick PKM-E series one of the most successful throughout the world, and now using a combination of further optimized topology and advanced components, the 24V input PKM2810EPI delivers 65% more power than its predecessor, while improving efficiency up to 92.5% at half-load and 89.5% at full-load.

The PKM2810EPI is a 3.3V/25A output module delivering up to 82.5W. The module is the first in the second generation of PKM2000EPI, complementing Ericsson Power Modules' portfolio to address the mid-power 24V segment. The module's high efficiency provides for a very good thermal derating performance, saving cost by simplifying thermal design.

By optimizing its circuitry and using special topology arrangements, the PKM2810EPI's building practice has been simplified to an extreme level, making it possible to mount all the components on one side of the board, keeping the back side clean of components to simplify baseplate attachment or connection to cold-wall cooling. A further benefit of the optimized PKM-E platform is the product's very light weight - 25 grams - reducing energy during transportation and board-stress when enclosed in sealed chassis.

The module is principally aimed at telecom systems powered by 24V batteries and accepts input voltages from 18 to 36V. However, because 24V is a common voltage in industrial OEM applications such as process control, automation, robotic, transportation and many others, the product is actually perfectly suited to a very large range of applications. This PKM2810EPI is also a very good product for when customers are upgrading boards to replace older modules to achieve higher-efficiency levels while reaping the cost benefit inherent to PKM-E's building practice.

As it has been in the ICT industry for several years, total cost of ownership (TCO) is also becoming a very important criterion for industrial applications. The inherent performance characteristics of the PKM2810EPI are perfectly suited to such a requirement. Also, the growing demand for cold-wall cooling systems require modules to fit into an inner chassis that has an average component height of less than 10mm. With its low height of 8.5mm (0.33 in) the PKM-E series is very well designed to ease board and mechanical designers' jobs when integrating board-mounted modules into sub-systems. This feature also makes them perfectly suited for narrow board pitch applications with board spacing down to 15mm.

Featuring versatile, useful controls, the module has an on/off control that is referenced to the input side (positive and negative logic options are available). A remote sense for the output voltage compensates for output distribution drops, and an output voltage trim - range from 2.97 to 3.63V - permits custom voltages and voltage margining. Full protection facilities are included embracing output over-voltage, input under-voltage, over temperature, monotonic start-up, and output short circuit protection. For safety and reliability, the PKM2810EPI features a 1500Vdc input to output isolation level.

Because of its unique, simplified design, low component count and high efficiency that reduces heat dissipated, according to Telecordia SR332 – issue 1 – Black Box Technique, the PKM2810EPI has an MTBF of 1.5 million hours, guaranteeing excellent system reliability over its life-time. The product is compatible with the relevant clauses and requirements of the RoHS

directive 2002/95/EC, and fully meets requirements in high-temperature lead-free soldering processes.

Introduced in February 2004, the Ericsson PKM-E 'single side components optimized platform' has received very high levels of attention from a broad range of industries, rewarding Ericsson's innovation in seeking to bring the most cost efficient solution to its customers, while offering the highest performance levels. The addition of the further optimized PKM2810EPI and other variants yet to come will offer more options to its customers when considering cost reduction programs.

Notes to editors:

Ericsson's standard multimedia content is available at the broadcast room:

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About Ericsson Power Modules

Ericsson Power Modules is a supplier of world-class DC/DC power modules for distributed power architectures. With its global design, development, manufacturing and sales network Ericsson Power Modules is a leading supplier of power solutions to meet the customer demand for high performance.