

Ericsson dual output DC/DC converters are drop-ins for earlier MacroDens modules and have floating dual outputs for versatility

Expanding its highly successful MacroDens portfolio of DC/DC modules, Ericsson Power Modules has released three PKR modules aimed primarily at powering telecom and datacom transmission systems requiring floating dual outputs, such as line cards and optical transmitters. Similarly, the PKR will also power a wide range of applications in instrumentation and process control that use analogue logic and communication chipsets. With their floating design, the devices' dual outputs can also be configured in series, making them suitable for feeding many other applications (for example, 24V output).

These latest additions to the 23 model MacroDens range comprise the PKR4221A with a “telecom input” voltage range of 36 to 75V with dual outputs ($\pm 12\text{V}/0.62\text{A}$), the PKR2221A “industrial” input voltage range of 18 to 36V with dual outputs ($\pm 12\text{V}/0.62\text{A}$), and the PKR4928A “telecom” input voltage range of 36 to 75V with dual outputs (3.3V/2.1A-5V/0.5A).

Factors driving the demand for this type of DC/DC module are the increased demand for broadband access and high-speed internet, combined with the huge number of fixed subscribers in emerging and growing markets, driving the demand for more-efficient power solutions and easy-to-use components that reduce time to market.

The devices' “board to board” technology is a proven platform optimized for cost efficiency and simplifying the assembly process. Their floating dual outputs provide a flexible output range offering multiple combinations – such as $\pm 12\text{V}$ to generate 24V.

PKR is a 100 percent drop-in replacement for its predecessor the PKF, offering an easy switch for customers migrating from the molded PKF to the open-frame PKR when re-designing boards to comply with RoHS legislation, and the forthcoming environmental requirements in the US and Asia.

Due to the novel approach introduced by Ericsson in 2004, the board-to-board assembly concept gives PKR a very efficient building topology that is well aligned with current market demands in terms of cost efficiency, environmental compliance and simplicity. This board-to-board single side component mounting design and the modules' special control IC are proprietary to Ericsson Power Modules.

Moving from the molded MacroDens (PKF) to an open-frame design (PKR), the product has lost 50 percent of its weight (PKF typical weight

18gm, PKR typical weight 9gm), reducing additional costs related to packaging and transportation, which has a direct impact on reducing energy consumed during transportation, handling and assembling. The device's reduced weight also helps the pick and place assembly procedure.

Additionally, moving from molded ceramic substrate to open-frame single sided component mounting assembled on FR4 has greatly contributed to making the products very competitive when compared to competitors' alternatives.

Based on the same topology and bill of materials, the PKR series is 100 percent compatible and interoperable with established MacroDens PKF modules. As part of the MacroDens concept, the PKR represents the latest evolution of a unique concept introduced by Ericsson 14 years ago, and proven throughout the years as the most reliable board-mounted product in its category. With close to 40 million MacroDens shipped to market, the level of failures reported is below 100ppm. Having entered mass production in Q1 2006, the total number of PKR shipments has passed one million products this month, confirming the extremely fast market adoption for the product and its commercial success.

Without compromise, Ericsson Power Modules' MacroDens PKR dual-output platform is the most optimized range of its kind on the market, offering cost efficiency for volume applications demanding floating dual outputs. Line card designers and developers concerned with cost, energy efficiency and simplicity should seriously consider the PKR dual output range.

Ericsson is shaping the future of Mobile and Broadband Internet communications through its continuous technology leadership. Providing innovative solutions in more than 140 countries, Ericsson is helping to create the most powerful communication companies in the world.

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About Ericsson Power Modules

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