DC/DC Power Modules

The latest high current DC/DC power modules from Ericsson Microelectronics extend the PKL 4000 family with models designed for the convergent telecommunications marketplace. The 1.8 V, 60 A PKL 4118 PIT and 1.8 V, 50 A PKL 4918 PIT models offer high efficiency (87% at 60 A), and at 37.2 W/in^3, these converters offer double the power density of other half-brick modules. These new modules are capable of handling input voltages ranging from 36 - 75 V and provide 1,500 V DC isolation voltage.

The hot-pluggable PKL 4000 series uses synchronous rectification, planar magnetics, and a special low-resistivity PCB to achieve maximum power efficiency and density. With thermal management elements, this power module removes heat efficiently. Extensive thermal design keeps the output MOSFETs at less than 10&#176C above the baseplate temperature, contributing to the MTBF of 2.2 million hours.

The PKL 4000 requires no series diodes for parallel operation. This offers significant benefits in higher current applications, especially at voltages below 3 V.

The half-brick format has been enhanced with two additional output pins to handle the current capability. All other pin assignments are industry-standard compatible, offering a straightforward route for upgrading existing board designs to take advantage of the new power levels delivered by the 2.4 &#215 2.4 &#215 0.5 inch (61 &#215 61 &#215 12.5 mm) package.

The PKL 4000 series is short circuit proof and includes built in over-voltage, under voltage, and over temperature protection. It also has soft start, remote turn-on, output adjustment, and remote sensing in addition to UL 1950 recognition and compliance with EN 60950.

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