Quarter-Brick DC/DC Converter

SynQor, the technology leader in dc/dc converters, has introduced a 40 amp quarter-brick sized isolated dc/dc converter. The PowerQor&#153 Tera series quarter-brick can deliver up to 40 amps of total output current at 2.5 V down to 1.2 V and 35 amps at 3.3 V, without the need for an attached heatsink. The QTA model converter is the industry's first available quarter-brick that provides 40 amps of output current.

The QTA series has a 48 V nominal input (35V to 75V range) and meets input voltage transient requirements up to 100 V for 100 ms. Employing the industry standard quarter-brick footprint and pin out, the unit measures 1.45 inches&#215 2.3 inches, and has a low profile of only 0.43 inches. The module uses synchronous rectification and features a full load efficiency of 82% at 1.2 Vout (87% at half-load) and 90.5% at 3.3 Vout (92% at half-load). The QTA converter also minimizes noise, offering an output voltage ripple of only 6 mV (RMS). This series will initially be offered at 1.2 Vout and 3.3 Vout with other output voltages of 1.5V, 1.8V and 2.5V being released at a later date.

SynQor has once again raised the bar for useable output current in a low voltage, industry standard module. SynQor's single &quotopen-board&quot design offers lower height, weight, cost, and application effort while providing more useable power in less space. As a result, the quarter-brick units without heatsinks deliver more useable power than most half-bricks with attached heatsinks. The QTA converter provides excellent power derating performance, delivering a full 40A load at 55&#176C and 300 LFM of airflow. With no heatsink and no thermal connections, the converter provides superior reliability and ease of manufacturing.

The QTA converter includes advanced control and protection features such as on/off control, voltage trim, remote sense, short circuit, output OVP, thermal shutdown and 2000 VDC isolation rating. These features allow advanced functionality, while standard safety certifications allow easy integration into the end user's product.

With this product introduction, SynQor has established a new standard trim equation to cover all converters operating at 1.2 V and below. The existing industry accepted trim equations do not function properly below 1.47 V. SynQor has carefully developed a single straightforward trim equation that does not have this restriction. Design engineers will appreciate the simple transition to a new trim equation as

they migrate to lower voltage applications.

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