

Toshiba Introduces L-Flat Rectifier Diode Packaging Designed To Save Space In Electronic Equipment

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First Diodes in L-Flat series support current ratings up to 10 Amps while reducing mounting area by 50 percent

Toshiba America Electronic Components, Inc. today announced the availability of its new L-Flat surface mount packages for high-power rectifier diodes, which utilize a lead-clamp structure to reduce mounting area by 50 percent or more compared to currently available industry standard packaging. In addition, TAEC introduced an extensive line of L-Flat diodes, with average forward current (IF_{AV}) ratings from 3 to 10 amperes (A). The L-Flat series, developed by Toshiba Corp., includes a selection of general purpose diodes, fast recovery diodes, high efficiency diodes, Schottky Barrier Diodes and zener diodes.

The new L-Flat diode series are intended for use in circuit protection applications including secondary rectification and absorption of free-wheeling and surge current in electronics devices such as motor drivers, AC/DC converters and switching mode power supplies. The Toshiba L-Flat package measures a compact 4.0mm x 8.2mm x 1.8mm, significantly smaller than industry-standard D-Pack (JEDEC TO-252AB) packages, which measure 6.5mm x 10mm x 2.5mm. The L-Flat mounting area of 32mm² is approximately 50 percent less than the D-Pack mounting area of 65mm².

Initial devices in the Toshiba L-Flat diode line-up include general

purpose diodes rated at 5A and 10A average forward current, with peak repetitive reverse voltage (V_{RRM}) of 400 or 800 volts (V). The series' first fast recovery diode is rated at 10A average forward current and 600V peak repetitive reverse voltage. A selection of eight high-efficiency diodes offers average forward current ratings of 3A or 5A, and peak repetitive reverse voltage of 200V, 300V, 400V and 600V. Three Schottky Barrier Diodes rated at 10A forward current offer a choice of repetitive reverse voltage of 30V, 40V or 60V. Toshiba zener diodes are offered in 3 watt (W) average forward current ratings, with a selection of reverse voltage ratings from 12V to 53V.

"Toshiba is committed to offering product designers and engineers advanced packaging technologies which simultaneously save space and deliver enhanced performance," said Jay Heinecke, business development director, discrete business unit at TAEC. "By miniaturizing the lead-clamp structure our packaging specialists were able to develop these diodes that support current ratings up to 10A in packages less than 100mm^2 ."

Toshiba L-Flat series high efficiency diodes and Schottky Barrier Diodes are available now. Samples of the L-Flat general purpose and fast recovery diodes are available now, and production quantities are scheduled to be available in third quarter, 2005. Pricing for the L-Flat series will start at \$0.30, each, in sample quantities.

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