OnChip Introduces Ultra Small ESD Protection Diodes with Extremely High Breakdown Voltage

Silicon Zener Diodes as Small as 7.9 x 7.9 mils sq and 4 mils (0.1mm) Thick Offer Exceptionally High Breakdown Voltage for High Brightness and Power LED Markets

Santa Clara, CA (PRWEB) July 03, 2012 -- OnChip Devices, a world leader in Integrated Passive Devices (IPD), has introduced miniature, wire bondable, silicon ESD (Electrostatic Discharge) protection diodes targeted for High Brightness and Power LED markets. The ESD7979 and ESD9595 diodes are designed with a junction, which enables conduction of high transient currents. These zeners exhibit no device degradation when compared to Multilayer Varistors (MLV). All devices meet the requirements of IEC61000 and safely dissipate ESD strikes of over 8kV when tested to the stringent MIL-STD-883 conditions.

High Brightness LEDs (HB LED) and High Power White LEDs using InGaN technology are manufactured to enable a market transition to energy efficient Solid-State Lighting (SSL). These LEDs continue to make major inroads into lighting applications that were traditionally dominated by incandescent light and other light sources. LEDs can be found in a wide array of applications ranging from traffic signals and automotive brake lights to full-color displays and LCD backlights. However, one of the main drawbacks of HB LED products is the fact that they are extremely sensitive to ESD. OnChip’s ESD7979 and ESD9595 diodes help to eliminate this weakness.

OnChip’s ESD7979 diode is only 7.9 x 7.9 mils (0.2mm x 0.2mm) in size with a thickness of 6 mils (0.15mm or 150um). The ESD9595 is slightly larger at 9.5 x 9.5 mils (0.24mm x 0.24mm) but with a thickness of only 4 mils (0.1mm or 100um). The tiny form-factor and single wire-bond feature make this device perfect for applications that have very confined spaces and miniature packaging. Though small in size these devices are manufactured to protect over 8kV of electrostatic discharge. A single high voltage ESD9595 has a zener diode voltage of 55V, whereas the ESD7979 diode exhibits a 100V breakdown voltage. They can be used for protecting a number of LEDs in a string ranging from 1 to 30 such as in RGB modules and other multi-chip modules. Protection from both positive and negative pulses (bidirectional signal) can also be possible by connecting two individual diodes with back-to-back topology.

OnChip also offers silicon and ceramic carriers or submounts that greatly improve the performance of HB LEDs.

Availability and Pricing
The OnChip ESD7979 and ESD9595 are available immediately worldwide at a price range of $0.02 to $0.03 USD in quantities of 100k to 150k units. They are available for shipment in wafer-form either diced or undiced. These components are designed and developed at OnChip Devices' Santa Clara facility and are produced to the highest quality standards.

About OnChip Devices
OnChip Devices is headquartered in Santa Clara, CA and is a global leader in Integrated Passive Devices. With its own silicon fabrication facility and strong partnerships with full turn-keys assembly and test houses in Asia, OnChip is offering state-of-the-art silicon and ceramic solutions for High Brightness LED, Computing, and Consumer Electronics.
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