

MechaTronix in LED

MechaTronix cooperation with Seoul Semiconductor for LED cooling



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MechaTronix, with its headquarter in Kaohsiung Taiwan, and Seoul Semiconductor, the world's fourth biggest manufacturer of LED components, have drafted a cooperation on the design, production and worldwide distribution of standard LED coolers. Seoul's new ZC series Chip-on-board (COB) LED arrays deliver a system level performance of 700 lumens to over 6,000 lumens. MechaTronix has developed a wide range of standard pin fin and star shaped passive LED coolers which thermally and mechanically match with all variations of Seoul's ZC COB's. In this way mechanical afterwork like drilling mounting holes can be avoided, and lighting designers get a perfect idea of the junction and case temperature they will acquire in their luminaire design.

Unique on these designs is that all ZC COB modules can be mounted either directly or by use of a Zhaga LED holder. By thermal enhanced modeling the cooling performance achieved an average improvement of 30%, what makes that either the LEDs can be kept at a lower junction temperature or the designer can use a smaller sized LED cooler.

As a case study shows a shop light design of 4100 lumen with a CCT of 2700K, using the Seoul Semiconductor ZC SDW85F1C. With the ModuLED Micro 8680 LED cooler the temperature raises 34° Celsius over the ambient temperature, or at an ambient temperature of 30 degrees, that would mean a case temperature of 64°C. The ModuLED Micro has a diameter of 86 millimeter and a height of 80 millimeter. The designers at MechaTronix have explicitly opted for this 86 millimeter diameter seen the history of shop lighting and active coolers. Just a few years ago it would be almost impossible to design a 4000 lumen shop light in this diameter with a passive cooling system, what made that most lighting designers developed around an active cooler. Typically active LED coolers came in a diameter of 86 or 87 millimeter. Now with the major increases in LED emitter efficiency and the decreasing internal package resistances, MechaTronix offers a perfect drop-in passive replacement solution.

ABOUT MECHATRONIX

MechaTronix was founded as a creative designer & manufacturer of high end mechanical plastic & metal parts. With its Asia-based headquarters in Kaohsiung Taiwan, MechaTronix became a powerhouse at designing and manufacturing heat sinks and thermal solutions for OEM and LED lighting applications. Strategic partnerships with major LED manufacturers and sharing our thermal knowledge with their luminaire designers are our core missions. Simple passive cooling, advanced heat pipe technology or active cooling solutions? MechaTronix offers of the shelf and tailored solutions to its worldwide professional customer base. For more information about the company, please visit : www.mechatronix-asia.com