

MechaTronix in LED

MechaTronix announces first standard LED cooler for high bay lights

Since most LED package manufacturers have launched recently COB LED modules with output lumens far exceeding the levels needed for spot and down light applications, now also the need for standard high bay LED coolers became a fact.

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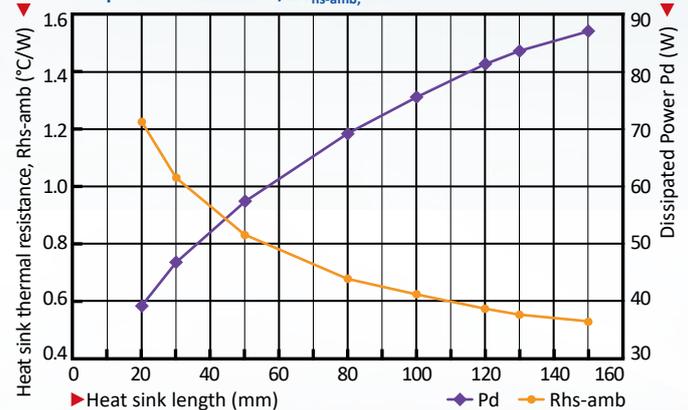
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As a reaction MechaTronix announces its first standard high bay cooling platform with the ModuLED Mega passive LED cooler. In a diameter of 134mm, a height of 100mm and a weight of 1.5kg, this passive LED cooler keeps luminaires up to 10.000 lumen on the required case and junction temperature. With a thermal resistance R_{th} of just 0.6 K/W the ModuLED Mega 134100-HBG can cool down 80 watts dissipated power or the equivalent of 115 watts electrical power.

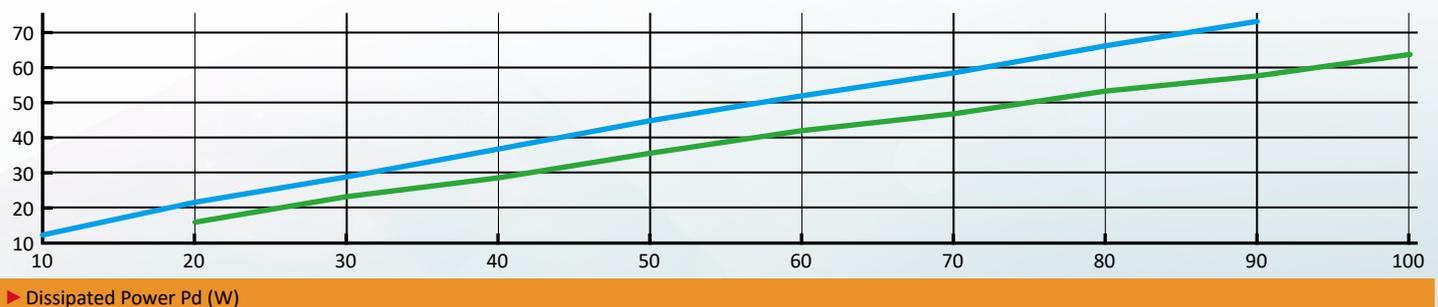
$P_d = P_e \times (1-\eta_L)$	Heat sink to ambient thermal resistance R_{hs-amb} (°C/W)		Heat sink to ambient temperature rise T_{hs-amb} (°C)	
	ModuLED Mega 13450-HBG	ModuLED Mega 134100-HBG	ModuLED Mega 13450-HBG	ModuLED Mega 134100-HBG
10	1.20	-	12	-
20	1.05	0.80	21	16
30	0.97	0.77	29	23
40	0.93	0.73	37	29
50	0.90	0.70	45	35
60	0.87	0.68	52	41
70	0.84	0.67	59	47
80	0.83	0.66	66	53
90	0.81	0.64	73	58
100	-	0.63	-	63

ModuLED Mega HBG performance data at a heat sink to ambient temperature difference, ΔT_{hs-amb} , of 50 °C



Heat sink to ambient temperature rise T_{hs-amb} (°C)

ModuLED Mega 13450-HBG ModuLED Mega 134100-HBG



Furthermore the ModuLED Mega is designed in this way that afterwork like drilling holes or tapping screws threads can be avoided in the design.

At one side there is a standard mounting pattern for direct assembly of the Mean Well HBG-60 and HBG-100 high bay LED driver. At the other side this cooler has its typical modular ModuLED design, with a variety of mounting patterns for each Zhaga LED module and the top 15 LED manufacturers of COB LED engines.

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Below is an example of a high bay sub assembly with the Mean Well HBG-100 LED driver, ModuLED Mega 134100 LED cooler, Laird TPCM phase change thermal pad, Cree CXA3070 COB module and BJB Zhaga LED holder.



The ModuLED Mega is again an example of the ideal balance between conduction, convection and radiation cooling and guarantees by this an optimal performance to space ratio. Besides the 100mm high model for high bay designs, this LED cooler will also become available in a limited height of just 20mm with a cooling performance up to 4000 lumen. Typically in the down light market there are many projects with limited ceiling heights, and up to now performance for low profile LED coolers where most of time limited to 3000 lumen or below. A third variation is the 50mm high model with a thermal resistance of 0.8K/W or suitable for lighting designs up to 7000 lumen.

MechaTronix will make mass production quantities available from middle of December 2014 onwards. Samples and design assistance are available through the worldwide distributor channels of MechaTronix. Datasheets are available on http://www.led-heatsink.com/MEAN_WELL_LED_Driver_Accessories.phtml

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