

## Mastering LED Cooling

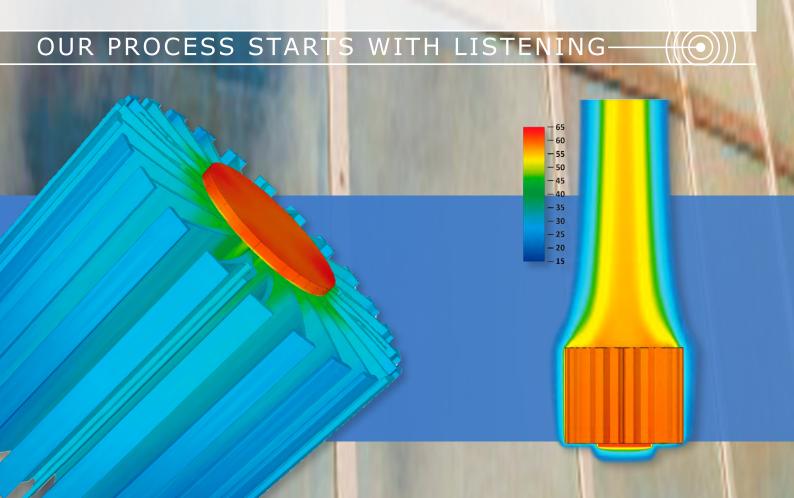
With the evolution of LED lighting over the last years, the demand for professional thermal solutions has grown exponentially. And now that we no longer remain in the realm of low power LED's, thermal management becomes a critical factor within LED fixtures. To that end, MechaTronix has developed several series of pin-fin and star heat sinks, manufactured through die casting, forging or extrusion. This has resulted in a comprehensive range of more than 400 off-the-shelf available LED coolers, for passive or active heat dissipation.

After initial reservations concerning active LED coolers, specialists have found that there really is no better option, when closing in on the 8000 lumen mark. Admittedly, the fan's lifespan becomes somewhat of a focal point in the application of an active LED cooler, but given that the lifespan of the LED engine itself dramatically decreases at high temperatures, the lifespan of the fan looks rather favourable all of a sudden.

MechaTronix' ground breaking ModuLED coolers and its actively cooled sibling IceLED have garnered a lot of attention and positive reviews in the LED market. ModuLED and IceLED are just precursors of a complete range of dedicated and highly effective LED coolers for professional deployment in spotlights, downlights, high bays and a further score of architectural and utility LED applications.

Both ModuLED and IceLED, as well as their upcoming descendants are Zhaga-ready and have a matrix of mounting holes that allows for very easy attachment of a great number of various Seoul Semiconductor LED modules. Simply apply a thermal interface of your choice, put the LED engine in place and fasten with self-tapping screws and you are good to go! No drilling, customisation or special mounting brackets are needed.

Thanks to an extremely thorough thermal verification of all heat sink lines, MechaTronix provides total thermal disclosure for each model, coupled with all Seoul Semiconductor ZC LED COB's and engines. All thermal data is available in the product specifications, that come with every MechaTronix heat sink. In this way, engineers save time and effort during the design stage of their LED fixture and will significantly shorten their time to market.





ZC series ZC 4, 6, 12, 18, 25, 40, 60, 100 Z-Power COB **Acrich Acrich MJT COB** 

Seoul Semi. LED Pin Fin cooler ø35mm - h50mm - Rth 7.41°C/W Cooling performance 700 - 1,300 lm

	Direct mount	Zhaga holder	Seoul Semiconductor LED COB
	<b>✓</b>	<b>∀</b>	Acrich MJT 13.5x13.5mm ZC4, ZC6

#### LPF4768-ZHP



Seoul Semi. LED Pin Fin cooler ø47mm - h68mm - Rth 3.9°C/W Cooling performance 1,300 - 2,500 lm

Direct mount	Zhaga holder	Seoul Semiconductor LED COB
	<b>✓</b>	Acrich MJT 13.5x13.5mm Acrich MJT 19x19mm
	V	ZC4, ZC6, ZC12, ZC18

#### LPF6050-ZHC

LPF3550-ZHC



Seoul Semi. LED Pin Fin cooler ø60mm - h50mm - Rth 4.0°C/W Cooling performance 1,200 - 2,300 lm

Direct mount	Zhaga holder	Seoul Semiconductor LED COB
<b>✓</b>	> >	Acrich MJT 13.5x13.5mm Acrich MJT SunLike 19x19mm
✓	V	ZC4, ZC6
	✓	ZC12, ZC18

#### LPF6768-ZHP



Seoul Semi. LED Pin Fin cooler ø67mm - h68mm - Rth 2.1°C/W Cooling performance 2,300 - 4,600 lm

mount	Zhaga holder	Seoul Semiconductor LED C
	✓	Acrich MJT 13.5x13.5mm
	✓	Acrich MJT 19x19mm
	✓	ZC4, ZC6, ZC12, ZC18, ZC25

### LPF8050-ZHC



Seoul Semi. LED Pin Fin cooler ø80mm - h50mm - Rth 2.34°C/W Cooling performance 2,000 - 4,000 lm

Direct mount	Zhaga holder	Seoul Semiconductor LED COB
<b>~</b>	< < <	Acrich MJT 13.5x13.5mm Acrich MJT 19x19mm ZC4, ZC6, ZC25
✓	✓	ZC12, ZC18

#### LPF8668-ZHC



Seoul Semi. LED Pin Fin cooler ø86mm - h68mm - Rth 1.46°C/W Cooling performance 3,300 - 6,500 lm

mount	holder	Seoul Semiconductor LED COB
<b>✓</b>	V V	Acrich MJT 13.5x13.5mm Acrich MJT 19x19mm, 28x28mm ZC18, ZC25, ZC40

#### LPF11180-ZHE



Seoul Semi. LED Pin Fin cooler ø111mm - h80mm - Rth 1.07°C/W Cooling performance 4,800 - 9,600 lm

Direct mount	Zhaga holder	Seoul Semiconductor LED COB
		Acrich MJT 19x19mm, 28x28mm ZC25, ZC40, ZC60

#### CoolStar® White 4740



Seoul Semi. Designer LED Star cooler ø47mm - h40mm - Rth 5°C/W Cooling performance 1,000 - 2,000 lm

Direct mount	Zhaga holder	Seoul Semiconductor LED COB
<b>▽</b>	<b>V</b>	Acrich MJT 13.5x13.5mm ZC4, ZC6 ZC12, ZC18

### CoolStar® White 4760



Seoul Semi. Designer LED Star cooler ø47mm - h60mm - Rth 4.17°C/W Cooling performance 1,200 - 2,400 lm

Direct mount	Zhaga holder	Seoul Semiconductor LED COB
<b>✓</b>	✓	Acrich MJT 13.5x13.5mm
	✓	Acrich MJT SunLike COB 19x19mm
✓	✓	ZC4, ZC6
	✓	ZC12

#### CoolStar® White 6730



Seoul Semi. Designer LED Star cooler ø67mm - h30mm - Rth 3.13°C/W Cooling performance 1,600 - 3,100 lm

Direct mount	Zhaga holder	Seoul Semiconductor LED COB
<b>✓</b>	✓	Acrich MJT 13.5x13.5mm, 19x19mm
✓		Acrich MJT SunLike 13.5x13.5mm
✓	✓	ZC4, ZC6, ZC12, ZC18

ZC series ZC 4, 6, 12, 18, 25, 40, 60, 100 Z-Power COB Acrich Acrich MJT COB



#### CoolStar® White 6760

Seoul Semi. Designer LED Star cooler ø67mm - h60mm - Rth 2.27°C/W Cooling performance 2,100 - 4,200 ln

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Direct mount	Zhaga holder	Seoul Semiconductor LED COB		
✓ ✓	<b>V</b>	Acrich MJT 13.5x13.5mm, 19x19mm Acrich MJT SunLike 13.5x13.5mm ZC4, ZC6		



### CoolStar® White 8630

Seoul Semi. Designer LED Star cooler Ø86mm - h30mm - Rth 2.08°C/W Cooling performance 2,300 - 4,600 lm

Direct mount	Zhaga holder	Seoul Semiconductor LED COB
<b>✓</b>	<b>✓</b>	Acrich MJT 13.5x13.5mm, 19x19mm
✓		Acrich MJT SunLike 13.5x13.5mm
✓	✓	ZC4, ZC6, ZC12, ZC18
	✓	ZC25



#### CoolStar® White 8660

Seoul Semi. Designer LED Star cooler Ø86mm - h60mm - Rth 1.56°C/W Cooling performance 3,100 - 6,100 lm

Direct mount	Zhaga holder	Seoul Semiconductor LED COB
<b>✓</b>	> >	Acrich MJT 13.5x13.5mm, 19x19mm Acrich MJT 28x28mm
✓	<b>✓</b>	ZC12, ZC18 ZC25, ZC40



#### **ModuLED Pico 4750**

Seoul Semi. Modular LED Star cooler Ø47mm - h50mm - Rth 5.3°C/W Cooling performance 900 - 1,800 lm

Direct mount	Zhaga holder	Seoul Semiconductor LED COB
<b>✓</b>		Acrich MJT 13.5x13.5mm ZC4, ZC6, ZC12



#### **ModuLED Pico 4780**

Seoul Semi. Modular LED Star cooler Ø47mm - h80mm - Rth 4.2°C/W Cooling performance 1,200 - 2,300 lm

Direct mount	Zhaga holder	Seoul Semiconductor LED COB
<b>V</b>	✓	Acrich MJT 13.5x13.5mm, 19x19mm
✓	✓	ZC4, ZC6, ZC12



#### **ModuLED Nano 7050**

Seoul Semi. Modular LED Star cooler Ø70mm - h50mm - Rth 2.2°C/W Cooling performance 2,200 - 4,300 lm

Direct mount	Zhaga holder	Seoul Semiconductor LED COB
<b>▽</b>	<b>444</b>	Acrich MJT 13.5x13.5mm, 19x19mm ZC4, ZC6, ZC12, ZC18 ZC25



#### **ModuLED Nano 7080**

Seoul Semi. Modular LED Star cooler Ø70mm - h80mm - Rth 1.8°C/W Cooling performance 2,700 - 5,300 lm

Direct mount	Zhaga holder	Seoul Semiconductor LED COB
<b>▽</b>	>>>>	Acrich MJT 13.5x13.5mm, 19x19mm Acrich MJT 28x28mm ZC12, ZC18 ZC25, ZC40



#### **ModuLED Micro 8630**

Seoul Semi. Modular LED Star cooler Ø86mm - h30mm - Rth 1.8°C/W Cooling performance 2,700 - 5,300 lm

Direct mount	Zhaga holder	Seoul Semiconductor LED COB
<b>V</b>	<b>V</b>	Acrich MJT 13.5x13.5mm, 19x19mm Acrich MJT 28x28mm
▼	<b>₹</b>	ZC12, ZC18 ZC25, ZC40



#### **ModuLED Micro 8650**

Seoul Semi. Modular LED Star cooler Ø86mm - h50mm - Rth 1.5°C/W Cooling performance 3,200 - 6,400 lm

Direct mount	Zhaga holder	Seoul Semiconductor LED COB
<b>~</b>		Acrich MJT 13.5x13.5mm, 19x19mm Acrich MJT 28x28mm
✓	<b>✓</b>	ZC12, ZC18 ZC25, ZC40



#### **ModuLED Micro 8680**

Seoul Semi. Modular LED Star cooler Ø86mm - h80mm - Rth 1.2°C/W Cooling performance 4,000 - 8,000 lm

Direct mount	Zhaga holder	Seoul Semiconductor LED COB
▼	<b>▽</b>	Acrich MJT 19x19mm Acrich MJT 28x28mm ZC25, ZC40, ZC60

ZC series ZC 4, 6, 12, 18, 25, 40, 60, 100 Z-Power COB Acrich Acrich MJT COB

#### ModuLED 9950

Seoul Semi. Modular LED Star cooler ø99mm - h50mm - Rth 1.34°C/W Cooling performance 3,600 - 7,200 lm

Direct mount	Zhaga holder	Seoul Semiconductor LED COB
<b>V</b>	<b>V</b>	Acrich MJT 19x19mm, 28x28mm ZC12/ZC18 ZC25, ZC40, ZC60
▼	✓	2C25, 2C40, 2C60



#### ModuLED 9980

Seoul Semi. Modular LED Star cooler ø99mm - h80mm - Rth 1.02°C/W Cooling performance 4,700 - 9,400 lm

Direct	Zhaga holder	Seoul Semiconductor LED COB
<b>✓</b>	<b>✓</b>	Acrich MJT 19x19mm, 28x28mm ZC25, ZC40, ZC60



### ModuLED Mega 13420

Seoul Semi. Modular LED Star cooler ø134mm - h20mm - Rth 1.32°C/W Cooling performance 3,700 - 7,300 lm

Direct mount	LED holder	Seoul Semiconductor LED COB
<b>✓</b>		Acrich MJT 19x19mm, 28x28mm ZC18, ZC25, ZC40



#### **ModuLED Mega 13450-HBG**

Seoul Semi. High Bay LED cooler with direct mounting holes for Mean Well HBG series driver

ø134mm - h50mm - Rth 0.88°C/W Cooling performance 5,500 - 11,000 lm

Direct mount	LED holder	Seoul Semiconductor LED COB
<b>✓</b>	<b>₹</b>	Acrich MJT 19x19mm, 28x28mm ZC25, ZC40, ZC60, ZC100



#### **ModuLED Mega 134100-HBG**

Seoul Semi. High Bay LED cooler with direct mounting holes for Mean Well HBG series driver

ø134mm - h100mm - Rth 0.67°C/W Cooling performance 7,200 - 14,300 lm

Direct mount	LED holder	Seoul Semiconductor LED COB
<b>▽</b>	<b>₹</b>	Acrich MJT 19x19mm, 28x28mm ZC60, ZC100



# **ModuLED Giga 15220**

Seoul Semi. Modular LED Star cooler ø152mm - h20mm - Rth 1.13°C/W Cooling performance 4,300 - 8,500 lm



## **ModuLED Giga 15250**

Seoul Semi. Modular LED Star cooler ø152mm - h50mm - Rth 0.7°C/W Cooling performance 6,800 - 13,500 lm

Direct mount	LED holder	Seoul Semiconductor LED COB
<b>✓</b>	7	Acrich MJT 19x19mm Acrich MJT 28x28mm ZC40, ZC60, ZC100



#### ModuLED Giga 152100-HBG

Seoul Semi. High Bay LED cooler with direct mounting holes for Mean Well HBG series driver ø152mm - h100mm - Rth 0.52°C/W Cooling performance 9,000 - 18,000 lm

Direct mount	LED holder	Seoul Semiconductor LED COB
<b>∀</b>	\ \ \ \	Acrich MJT 28x28mm Acrich MJT 38x38mm ZC100

ZC series ZC 4, 6, 12, 18, 25, 40, 60, 100 Z-Power COB **Acrich Acrich MJT COB** 



### **ModuLED Giga 152150-HBG**

Seoul Semi. High Bay LED cooler with direct mounting holes for Mean Well HBG series driver

ø152mm - h150mm - Rth 0.46°C/W Cooling performance 10,500 - 21,000 lm

Direct mount	LED holder	Seoul Semiconductor LED COB
<b>V</b>	<b>▽</b>	Acrich MJT 28x28mm Acrich MJT 38x38mm
<b>V</b>	✓	ZC100



# CoolBay® Giga-A

Seoul Semi. High Bay LED cooler with CoolTube® heat tube and direct mounting holes for Mean Well HBG series driver

ø152mm - h200mm - Rth 0.34°C/W Cooling performance 14,500 - 29,000 lm

Direct mount	LED holder	Seoul Semiconductor LED COB
<b>V</b>	V	Acrich MJT 38x38mm



#### IceLED 450

Seoul Semi. Modular Active LED cooler ø99mm - h45mm - Rth 0.58°C/W Cooling performance 8,200 - 16,400 lm

Direct mount	Zhaga holder	Seoul Semiconductor LED COB
V V	<b>V</b>	Acrich MJT 28x28mm Acrich MJT 38x38mm ZC60 ZC100



# CoolBay® Tera-A

Seoul Semi. High Bay LED cooler with CoolTube® heat tube and direct mounting holes for Mean Well HBG series driver ø192mm - h250mm - Rth 0.22°C/W Cooling performance 22,000 - 44,00

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Direct mount	Zhaga holder	Seoul Semiconductor LED COB	
<b>V</b>	✓	Acrich MJT 38x38mm	



#### IceLED 550

Seoul Semi. Modular Active LED cooler ø99mm - h55mm - Rth 0.46°C/W Cooling performance 10,500 - 21,000 lm

Direct mount	Zhaga holder	Seoul Semiconductor LED COB
V V	<b>V</b>	Acrich MJT 28x28mm Acrich MJT 38x38mm ZC100



# IceLED Ultra

Seoul Semi. Modular Active LED cooler ø99mm - h75mm - Rth 0.25°C/W Cooling performance 19,000 - 38,000 lm

Direct mount	Zhaga holder	Seoul Semiconductor LED COB
✓		Acrich MJT 38x38mm

