

Mastering LED Cooling

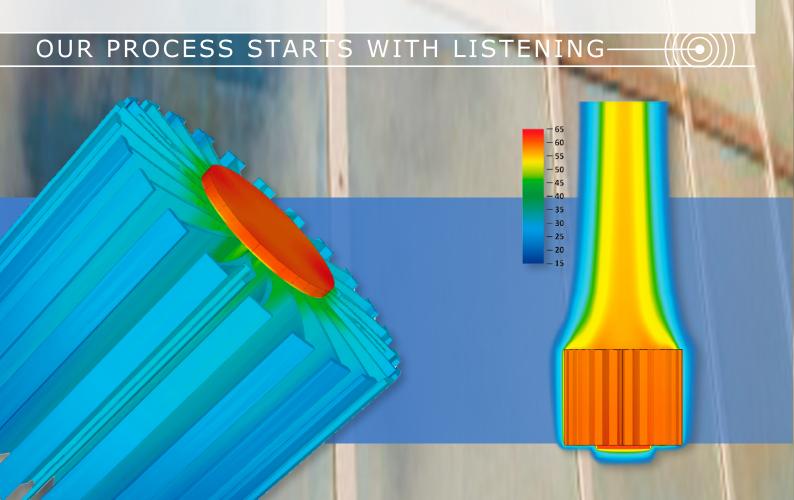
With the evolution of LED lighting over the last years, the demand for professional thermal solutions has grown exponentially. And now that we no longer remain in the realm of low power LED's, thermal management becomes a critical factor within LED fixtures. To that end, MechaTronix has developed several 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.



SEOUL SEMICONDUCTOR LED COOLING

ZC series COB LED modules ZC6, -12, -18, -25, -40, -60, -100 / ACrich AC Zhaga 30W

LPF3550-ZHC

Seoul Semiconductor LED Pin Fin cooler ø35mm - h50mm - Rth 7.41°C/W Cooling performance 300 - 1,000 lm

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Direct mount	Zhaga holder	Seoul Semiconductor LED COB

LPF4768-ZHP

Seoul Semiconductor LED Pin Fin cooler ø47mm - h68mm - Rth 3.9°C/W Cooling performance 600 - 2,200 lm



Direct | Zhaga holder | Seoul Semiconductor LED COB

✓

ZC12 / ZC18

LPF6050-ZHC

Seoul Semiconductor LED Pin Fin cooler ø60mm - h50mm - Rth 4.0°C/W Cooling performance 500 - 1,700 lm



Direct	Zhaga	Seoul Semiconductor LED COE
mount	holder	Seoul Serriconductor LED COE

ZC6 ZC12 / ZC18



LPF6768-ZHP

Seoul Semiconductor LED Pin Fin cooler ø67mm - h68mm - Rth 2.1°C/W Cooling performance 1,100 - 3,300 lm



Direct Zhaga mount holder Seoul Semiconductor LED COB

> ✓ ZC6 ZC12 / ZC18 ✓

ZC25 / ZC40 ACrich AC Zhaga 30W

LPF8050-ZHC

Seoul Semiconductor LED Pin Fin cooler ø80mm - h50mm - Rth 2.34°C/W Cooling performance 1,000 - 3,000 lm



Seoul Semiconductor LED COB

ZC12 / ZC18

✓

ACrich AC Zhaga 30W



LPF8668-ZHC

Seoul Semiconductor LED Pin Fin cooler ø86mm - h68mm - Rth 1.46°C/W Cooling performance 1,500 - 4,600 lm

Direct
✓
✓
✓

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Zhaga holder Seoul Semiconductor LED COB

ZC12 / ZC18 ZC25 / ZC40 ACrich AC Zhaga 30W

LPF11180-ZHE

Seoul Semiconductor LED Pin Fin cooler ø111mm - h80mm - Rth 1.07°C/W Cooling performance 2,000 - 6,000 lm



Seoul Semiconductor LED COB

7C18

ZC25 / ZC40

ModuLED Pico 4750

Seoul Semiconductor Modular LED Star cooler

ø47mm - h50mm - Rth 5.3°C/W Cooling performance 400 - 1,400 lm

Direct Zhaga holder	Seoul Semiconductor LED COB
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ZC6 ZC12 **V**



ModuLED Pico 4780

Seoul Semiconductor Modular LED Star cooler

ø47mm - h80mm - Rth 4.2°C/W Cooling performance 600 - 1,800 lm

	Seoul Semiconductor LED COB

✓

ZC12 / ZC18

ModuLED Nano 7050 Seoul Semiconductor Modular LED

Star cooler ø70mm - h50mm - Rth 2.2°C/W Cooling performance 1,000 - 3,100 lm

Direct mount	Zhaga holder	Seoul Semiconductor I	LED	COI
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✓ **✓** ✓

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ZC12 / ZC18 **V** ZC25

ACrich AC Zhaga 30W

ModuLED Nano 7080

Seoul Semiconductor Modular LED Star cooler

ø70mm - h80mm - Rth 1.8°C/W Cooling performance 1,200 - 3,800 lm

Direct | Zhaga | Seoul Semiconductor LED COB ✓ ✓ ZC12 / ZC18 ZC25 / ZC40 **V** ✓ ACrich AC Zhaga 30W

ModuLED Micro 8650

Seoul Semiconductor Modular LED Star cooler

ø86mm - h50mm - Rth 1.5°C/W Cooling performance 1,500 - 4,500 lm

Direct mount	Zhaga holder	Seoul Semiconductor LED COB
▽	V	ZC6 ZC12 / ZC18 ZC25 / ZC40
V	V	ZC12 / ZC18 ZC25 / ZC40

ACrich AC Zhaga 30W



ModuLED Micro 8680

Seoul Semiconductor Modular LED Star cooler

ø86mm - h80mm - Rth 1.2°C/W Cooling performance 1,800 - 5,500 lm

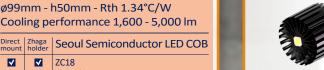
Direct mount	Zhaga holder	Seoul Semiconductor LED COB
✓	< >	ZC12 / ZC18 ZC25 / ZC40
✓		ACrich AC Zhaga 30W

ModuLED 9950

Seoul Semiconductor Modular LED Star cooler ø99mm - h50mm - Rth 1.34°C/W



ACrich AC Zhaga 30W





ModuLED 9980

Seoul Semiconductor Modular LED Star cooler ø99mm - h80mm - Rth 1.02°C/W Cooling performance 2,100 - 6,400 lm

Direct	Zhaga	Seoul Semiconductor LED COB
▽	✓	ZC18 ZC25 / ZC40 / ZC60 ACrich AC Zhaga 30W





ModuLED Mega 13420

Seoul Semiconductor Modular LED Star cooler

ø134mm - h20mm - Rth 1.32°C/W Cooling performance 1,600 - 5,000 lm

Direct Zhaga holder Seoul Semiconductor LED COI

ZC18 ZC25 / ZC40 / ZC60 ACrich AC Zhaga 30W



ModuLED Mega 13450-HBG

Seoul Semiconductor High Bay LED cooler with direct mounting holes for Mean Well HBG series driver ø134mm - h50mm - Rth 0.88°C/W Cooling performance 2,400 - 7,300 lm

Direct mount	Zhaga holder	Seoul Semiconductor LED COB
V	V	ZC40 / ZC60



ModuLED Mega 134100-HBG

Seoul Semiconductor High Bay LED cooler with direct mounting holes for Mean Well HBG series driver ø134mm - h100mm - Rth 0.67°C/W Cooling performance 3,300 - 10,000 lm

Direct	Zhaga
mount	holder

Seoul Semiconductor LED COB

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ZC40 / ZC60



ModuLED Giga 15220

Seoul Semiconductor Modular LED Star cooler ø152mm - h20mm - Rth 1.13°C/W

Cooling performance 2,000 - 6,000 lm Seoul Semiconductor LED COB

V ⊽

ZC25 / ZC40 / ZC60 ACrich AC Zhaga 30W



ModuLED Giga 15250

Seoul Semiconductor Modular LED Star cooler

ø152mm - h50mm - Rth 0.7°C/W Cooling performance 3,000 - 9,000 lm

Seoul Semiconductor LED COB ZC40 / ZC60

√ ZC100



ModuLED Giga 152100-HBG

Seoul Semiconductor High Bay LED cooler with direct mounting holes for Mean Well HBG series driver ø152mm - h100mm - Rth 0.52°C/W Cooling performance 4,000 - 12,000 lm

Direct mount	Zhaga holder	Seoul Semiconductor LED COB
✓	▼	ZC60 ZC100



ModuLED Giga 152150-HBG

Seoul Semiconductor High Bay LED cooler with direct mounting holes for Mean Well HBG series driver ø152mm - h150mm - Rth 0.46°C/W Cooling performance 10,000 - 16,000 lm

Direct Zhaga mount holder		Zhaga holder	Seoul Semiconductor LED COB
	✓		ZC100



CoolBay® Giga-A

Seoul Semiconductor 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 12,000 - 22,000 lm

Direct mount	Zhaga holder	Seoul Semiconductor LED COB
✓	V	ZC100



CoolBay® Tera-A

Seoul Semiconductor 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 15,000 - 35,000 lm

Direct mount	Zhaga holder	Seoul Semiconductor LE	D COB
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✓ **✓** ZC100



LED cooler ø99mm - h45mm - Rth 0.58°C/W Cooling performance 3,500 - 10,500 lm

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Direct Zhaga Seoul Semicon			Seoul Semiconductor LED COB

ZC25 / ZC40 / ZC60 ✓ ZC100



IceLED 550

Seoul Semiconductor Modular Active

ø99mm - h55mm - Rth 0.46°C/W Cooling performance 4,200 - 12,800 lm

Direct	7haga	Seoul Semiconductor LED COE	,
mount	bolder	Seoul Semiconductor LED COE	3

ZC25 / ZC40 / ZC60 **✓** ZC100



IceLED Ultra

Seoul Semiconductor Modular Active LED cooler

ø99mm - h75mm - Rth 0.25°C/W Cooling performance 5,000 - 20,000 lm

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Direct mount	Zhaga holder	Seoul Semiconductor LED COB
✓		ZC100

