LED COOLING SOLUTIONS
For Zhaga LED modules

- Validated Thermal Designs
- Adaptable to your Needs
- Functional & Aesthetic
Zhaga & ECO Partnerships

In conjunction with several world leading LED manufacturers and other stakeholders in the field, MechaTronix whole heartedly supports the emerging Zhaga industry standard. To that end, many off-the-shelf MechaTronix heat sinks - passive as well as active - are compatible with these Zhaga specifications, making them instantly ready for assembly with Zhaga designed LED engines or secondary optics, such as lenses or reflectors.

Despite Zhaga’s efforts, the international market still offers a great diversity in unique mechanical formats for LED engines. MechaTronix appreciates the need for LED coolers to be modular plug and play components, matching all varieties of LED engines and secondary optics.

Not surprisingly, MechaTronix has been able to forge strong alliances with - and establish specific heat sink ranges for many leading LED manufacturers. Amongst these are the likes of Bridgelux, Citizen, Cree, Edison, GE Lighting, LG Innotek, Lustrous, Osram, Osram Opto Semiconductors, Philips Lighting, Philips Lumileds, Prolight Opto, Seoul Semiconductor, Sharp, Tridonic, Vossloh Schwabe and Xicato. Countless hours of compatibly testing enable us to present you with complete and validated thermal data of all feasible combinations of heat sinks and LED engines.

As a result of these efforts, MechaTronix has found a score of LED manufacturers and other specialist parties in the business to form ECO partnerships with. The mutual sharing of data and R&D and the adherence to Zhaga specifications comes with great benefits to all involved, not forgetting the end users. MechaTronix now is being endorsed as the preferred brand of heat sinks within these ECO Partnerships, guaranteeing a perfect mechanical fit, reliable thermal performance and an overall aesthetic design.
For Zhaga Book 2 socketable LED engines
Zhaga Interface Specification Book 2 defines the interfaces of a type-A LED light engine (socketable with integrated control gear).
The LED light engine has a round drum shape with maximum dimensions of 70.2 mm diameter and 45 mm height. It has a circular light-emitting surface with a typical diameter of 55 mm and a PH65d type base.

Zhaga Book 2 compliant LED engines*1
- Megaman Teco
- Philips Fortimo TDL
- Tridonic Talexx Stark DLE twist

*1 This list is a non-binding overview of available Zhaga book 2 LED engines at press

For Zhaga Book 5 socketable LED engines
Zhaga Interface Specification Book 5 defines the interfaces of a type-B LED light engine (socketable LED module with separate electronic control gear).

Zhaga Book 5 compliant LED engines*1
- GE Infusion LED modules M1000, M1500, M2000, M3000, M4500 and NPM

*1 This list is a non-binding overview of available Zhaga book 5 LED engines at press

For Zhaga Book 6 socketable LED engines
Zhaga Interface Specification Book 6 defines the interfaces of a type-A LED light engine (socketable with integrated control gear).

Zhaga Book 6 compliant LED engines*1
- Toshiba E-Core LED Light Engine LED LEV11 and LEV16

*1 This list is a non-binding overview of available Zhaga book 6 LED engines at press

For Zhaga Book 3 Spot Light Modules
Zhaga Interface Specification Book 3 defines the interfaces of a type-D LED light engine (non-socketable LED module with separate electronic control gear). The LED light engine LLE has a round disc shape with a maximum height of 7.2 mm and a typical diameter of 50 mm.

It is suitable for spot-lighting and other applications that benefit from a small, circular source. Book 3 specifies a circular light-emitting surface (LES) that can have a range of diameters, namely 9 mm, 13.5 mm, 19 mm and 23 mm.

Zhaga book 3 compliant LED Spot Light modules*1
- Edison Edilex SLM
- Osram Prevalux
- Philips Fortimo SLM
- Tridonic Talexx Stark SLE
- Vexica Lumaera
- Vossloh Schwabe Luga Shop

*1 This list is a non-binding overview of available Zhaga book 3 LED engines at press

LED COB’s for which Zhaga book 3 LED holders are available
- Bridgelux E5 rectangular LED array
- Citizen Citiled CL-1030, CL-1032, CL-1040, CL-1042
- Cree XLamp CXA115xx, CXA25xx, CXA30xx
- Edison Opto HM16 and HM30
- LG Lighting MCP 10-24W
- Osram Soleriq E30
- Philips Lumileds Luxeon 1204, 1205 and 1208 Luxeon K12 and K16
- Prolight Opto PABA 5-50W
- Sharp Mega Zenigata and Tiger Zenigata
- Tridonic Talexx Stark LES 17
- Edison Opto HM05 and HM09
- Osram Soleriq S13
- Seoul Semiconductor ZC6
- Tridonic Talexx Stark SLE GEN3 Mini LES-10

For Zhaga Book 11 Spot Light Modules
Zhaga Interface Specification Book 11 defines the interfaces of LED light engines (LLEs) comprising a circular, non-socketable LED module with a separate LED driver (electronic control gear). The LED modules in Book 11 have an overall diameter of 35 mm and a height of 3.5 mm. It is suitable for spot-lighting and other applications that benefit from a small, circular source.

LED COB’s for which Zhaga book 11 LED holders are available
- Citizen Citiled CLL022 - CLU024
- Cree XLamp CXA13xx, CXA15xx
- Edison Opto HM05 and HM09
- Osram Soleriq S13
- Prolight Opto CI series PACB 5W, 7W, 9W
- Seoul Semiconductor ZC6
- Tridonic Talexx Stark SLE GEN3 Mini LES-10
**LPF4768-ZHP**
- LED Pin Fin cooler
- For Zhaga Book 3, Book 11 LED module
- Ø47mm - h68mm
- Cooling performance 600 - 2,200 lm
- Thermal resistance Rth 3.9°C/W

**LPF6050-ZHC**
- LED Pin Fin cooler
- For Zhaga Book 3, Book 11 LED module
- Ø60mm - h50mm
- Cooling performance 500 - 1,700 lm
- Thermal resistance Rth 4.0°C/W

**LPF6768-ZHP**
- LED Pin Fin cooler
- For Zhaga Book 3, Book 11 LED module
- Ø67mm - h68mm
- Cooling performance 1,100 - 3,300 lm
- Thermal resistance Rth 2.1°C/W

**LPF8050-ZHC**
- LED Pin Fin cooler
- For Zhaga Book 3 LED module
- Ø80mm - h50mm
- Cooling performance 1,000 - 3,000 lm
- Thermal resistance Rth 2.34°C/W

**LPF11180-ZHE**
- LED Pin Fin cooler
- For Zhaga Book 3 LED module
- Ø111mm - h80mm
- Cooling performance 2,000 - 6,000 lm
- Thermal resistance Rth 1.07°C/W

**ModuLED Pico 4780**
- Modular Passive LED cooler
- For Zhaga Book 3, Book 11 LED module
- Ø47mm - h80mm
- Cooling performance 600 - 1,800 lm
- Thermal resistance Rth 4.2°C/W

**ModuLED Pico 4750**
- Modular Passive LED cooler
- For Zhaga Book 3, Book 11 LED module
- Ø47mm - h68mm
- Cooling performance 400 - 1,400 lm
- Thermal resistance Rth 5.3°C/W
**ModuLED Micro 8630**
- Modular Passive LED cooler
- For Zhaga Book 3, Book 11 LED module
- ø86mm - h30mm
- Cooling performance 1,200 - 3,800 lm
- Thermal resistance Rth 1.8°C/W

**ModuLED Micro 8650**
- Modular Passive LED cooler
- For Zhaga Book 3, Book 11 LED module
- ø86mm - h50mm
- Cooling performance 1,500 - 4,500 lm
- Thermal resistance Rth 1.5°C/W

**ModuLED Micro 8680**
- Modular Passive LED cooler
- For Zhaga Book 3, Book 11 LED module
- ø86mm - h80mm
- Cooling performance 1,800 - 5,500 lm
- Thermal resistance Rth 1.2°C/W

**ModuLED Xtra 9950**
- Modular Passive LED cooler
- For Zhaga Book 2, Book 3, Book 5, Book 6, Book 11 LED module
- ø99mm - h50mm
- Cooling performance 1,600 - 5,000 lm
- Thermal resistance Rth 1.34°C/W

**ModuLED Xtra 9980**
- Modular Passive LED cooler
- For Zhaga Book 2, Book 3, Book 5, Book 6, Book 11 LED module
- ø99mm - h80mm
- Cooling performance 2,100 - 6,400 lm
- Thermal resistance Rth 1.02°C/W

**ModuLED Nano 7050**
- Modular Passive LED cooler
- For Zhaga Book 3, Book 11 LED module
- ø70mm - h50mm
- Cooling performance 1,000 - 3,100 lm
- Thermal resistance Rth 2.2°C/W

**ModuLED Nano 7080**
- Modular Passive LED cooler
- For Zhaga Book 3, Book 11 LED module
- ø70mm - h50mm
- Cooling performance 1,200 - 3,800 lm
- Thermal resistance Rth 1.8°C/W

**ModuLED Nano 7080**
- Modular Passive LED cooler
- For Zhaga Book 3, Book 11 LED module
- ø70mm - h50mm
- Cooling performance 1,200 - 3,800 lm
- Thermal resistance Rth 1.8°C/W

**ModuLED Mega 13420**
- Modular Passive LED cooler
- For Zhaga Book 3 LED module
- ø134mm - h20mm
- Cooling performance 1,600 - 5,000 lm
- Thermal resistance Rth 1.32°C/W
**ModuLED Giga 15220**
Modular Passive LED cooler
For Zhaga Book 3 LED module
ø152mm - h20mm
Cooling performance 2,100 - 6,400 lm
Thermal resistance Rth 1.02°C/W

**ModuLED Mega 13450**
Modular Passive LED cooler
For Zhaga Book 3 LED module
ø134mm - h50mm
Cooling performance 2,400 - 7,300 lm
Thermal resistance Rth 0.88°C/W

**ModuLED Giga 152100**
Modular Passive LED cooler
For Zhaga Book 3 LED module
ø152mm - h100mm
Cooling performance 3,300 - 10,000 lm
Thermal resistance Rth 0.64°C/W

**ModuLED Mega 134100**
Modular Passive LED cooler
For Zhaga Book 3 LED module
ø134mm - h100mm
Cooling performance 3,300 - 10,000 lm
Thermal resistance Rth 0.67°C/W

**ModuLED Giga 15250**
Modular Passive LED cooler
For Zhaga Book 3 LED module
ø152mm - h50mm
Cooling performance 3,300 - 10,000 lm
Thermal resistance Rth 0.67°C/W

**IceLED Xtra 550**
Modular Active LED cooler
For Zhaga Book 2, Book 3, Book 5, Book 6, Book 11 LED module
ø99mm - h55mm
Cooling performance 4,200 - 12,800 lm
Thermal resistance Rth 0.46°C/W

**IceLED Xtra Ultra**
Modular Active LED cooler
For Zhaga Book 2, Book 3, Book 5, Book 6, Book 11 LED module
ø99mm - h75mm
Cooling performance 5,000 - 20,000 lm
Thermal resistance Rth 0.25°C/W