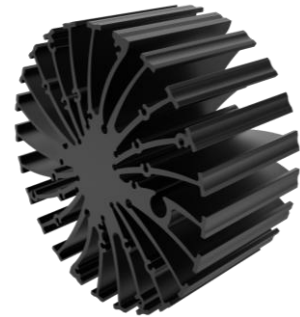


**EtraLED**

**EtraLED-GE-11050 GE Modular Passive Star Heat Sink  $\Phi$ 110mm**

**Features VS Benefits**

- \* The EtraLED-GE-11050 GE Lighting Modular Passive Star LED Heat Sinks are specifically designed luminaires using the GE Lighting LED engines.
- \* Mechanical compatibility with direct mounting of the LED engines to the LED cooler and thermal performance matching the lumen packages.
- \* For spotlight and downlight designs from 2400 to 6,100 lumen.
- \* Thermal resistance range  $R_{th}$  1.22°C/W.
- \* Modular design with mounting holes foreseen for direct mounting of GE lighting Infusion™ LED engines.
- \* Diameter 110.0mm - standard height 50mm Other heights on request.
- \* Forged from highly conductive aluminum.

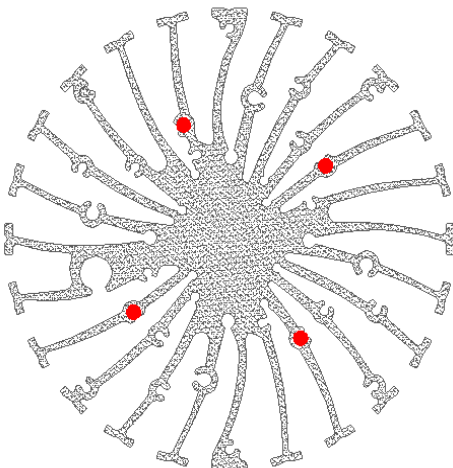


**Zhaga LED engine and radiator assembly is a unified future international standardization**

- \* Below you find an overview of GE COB's and LED modules which standard fit on the srar LED heat sinks.
- \* In this way mechanical after work and related costs can be avoided, and lighting designers can standardize their designs on a limited number of srar LED heat sinks.



**GE Lighting**



**GE lighting LED engines for which Zhaga book5 LED Modules holders are available.**

For the GE lighting Infusion™ M LED modules.

**Infusion™ M3000**

- M3000/827/W/G4;
- M3000/830/W/G4;
- M3000/835/W/G4;
- M3000/840/W/G4;
- M3000/930/W/G4;

**Infusion™ M4500**

- M4500/827/W/G4;
- M4500/830/W/G4;
- M4500/835/W/G4;
- M4500/840/W/G4;
- M4500/930/W/G4;

For the GE lighting Infusion™ DLM LED modules.

**Infusion™ DLMM3000**

- DLM3000/927;
- DLM3000/930;
- DLM3000/935;
- DLM3000/940;

**Infusion™ DLM4000**

- DLM4000/927;
- DLM4000/930;
- DLM4000/935;
- DLM4000/940;

Please refer to the "<http://www.gelighting.com/LightingWeb/emea/>" data provided on the manual.

Zhaga Book5 Green indicator marks:  
Direct mounting with machine screws M3.5x6.5mm;

*EtraLED*

**EtraLED-GE-11050 GE Modular Passive Star Heat Sink  $\Phi$ 110mm**

**Mounting Options and Drawings & Dimensions**

Example: EtraLED-GE-11050-B-1

Example: EtraLED-GE-110 **1** - **2** - **3**

**1** Height (mm)

**2** Anodising Color

B-Black

C-Clear

Z-Custom

**3** Mounting Options - see graphics for details Combinations available

Ex.order code - 12

means option 1 and 2 combined

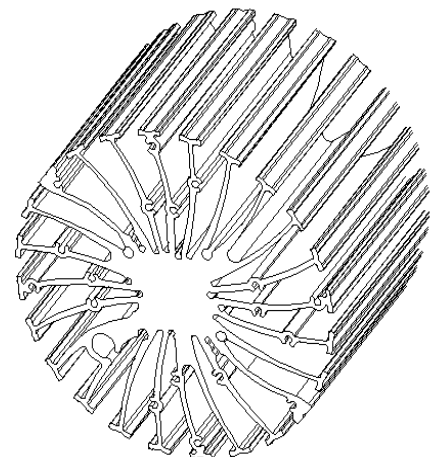
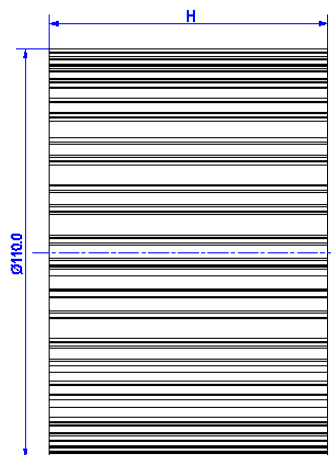
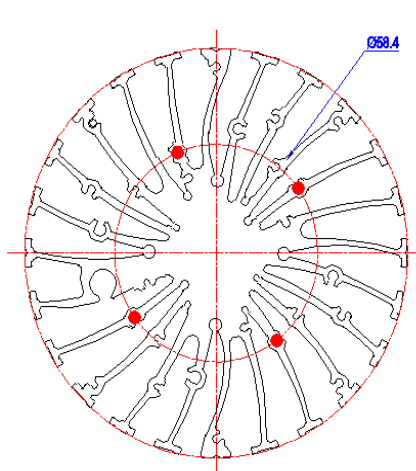


GE Lighting

**Notes:**

- Mentioned models are an extraction of full product range.
- For specific mechanical adaptations please contact MingfaTech.
- MingfaTech reserves the right to change products or specifications without prior notice.

MOUNTING OPTION	Module type	Holder NO.	THREAD	THREAD DEPTH	THREAD HOLE DISTANCE
1	Infusion™ M Infusion™ DLM	GE Lighting	M3.5	6.5mm	$\Phi$ 58.4mm/ 4-M3.5 (Zhaga book5)



**EtraLED**

**EtraLED-GE-11050 GE Modular Passive Star Heat Sink Φ110mm**

**The product data table**

	<b>Model No.</b>	EtraLED-GE-11050
	<b>Heatsink Size</b>	Φ110xH50mm
	<b>Heatsink Material</b>	AL6063-T5
	<b>Finish</b>	Black Anodized
	<b>Weight (g)</b>	414.0
	<b>Dissipated power (Ths-amb,50°C)</b>	41.0 (W)
	<b>Cooling surface area (mm<sup>2</sup>)</b>	124084
	<b>Thermal Resistance (Rhs-amb)</b>	1.22 (°C/W)

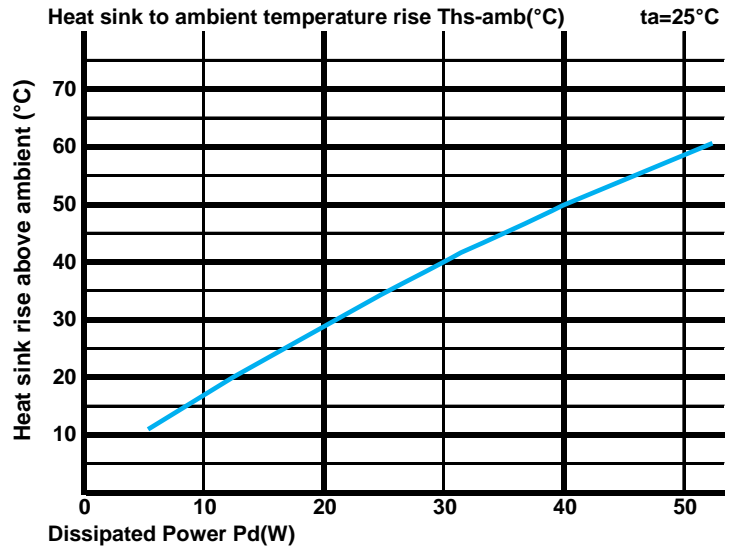
**The thermal data table**

\* Please be aware the dissipated power Pd is not the same as the electrical power Pe of a LED module.

\*To calculate the dissipated power please use the following formula: Pd = Pe x (1-ηL).

Pd - Dissipated power ; Pe - Electrical power ; ηL = Light efficiency of the LED module;

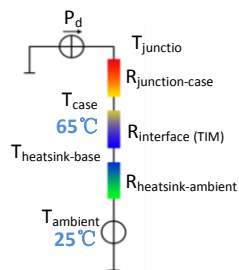
Dissipated Power Pd(W)	Heat sink to ambient thermal resistance Rhs-amb (°C/W)	
	Heat sink to ambient temperature rise Ths-amb (°C)	Heat sink to ambient temperature rise Ths-amb (°C)
EtraLED-GE-11050		
10.0	1.60	16.0
20.0	1.40	28.0
30.0	1.33	40.0
40.0	1.23	49.0
50.0	1.16	58.0



\*The aluminum substrate side of the package outer shell is thermally connected to the heat sink via TIM (Thermal interface material).

MingFa recommends the use of a high thermal conductive interface between the LED module and the LED cooler.

Either thermal grease, A thermal pad or a phase change thermal pad thickness 0.1-0.15mm is recommended.



\*Thermal resistance is a heat property and a measurement of a temperature difference by which an object or material resists a heat

Geometric shapes are different, the thermal resistance is different. Formula:  $\theta = (Ths - Ta) / Pd$

$\theta$  - Thermal Resistance [°C/W]; Ths - Heatsink temperature ; Ta - Ambient

\*The thermal resistance between the junction section of the light-emitting diode and the aluminum substrate side of the package outer shell is R<sub>junction-case</sub>, the thermal resistance of the TIM outside the package is R<sub>interface (TIM)</sub> [°C/W], the thermal resistance with the heat sink is R<sub>heatsink-ambient</sub> [°C/W], and the ambient temperature is T<sub>ambient</sub> [°C].

\*Thermal resistances outside the package R<sub>interface (TIM)</sub> and R<sub>heatsink-ambient</sub> can be integrated into the thermal resistance R<sub>case-ambient</sub> at this point. Thus, the following formula is also used:

$$T_{junction} = (R_{junction-case} + R_{case-ambient}) \cdot Pd + T_{ambient}$$