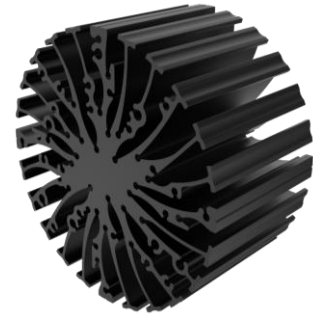


EtraLED

EtraLED-GE-9650 GE Modular Passive Star Heat Sink Ø96mm

Features VS Benefits

- * The EtraLED-GE-9650 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 2000 to 5,100 lumen.
- * Thermal resistance range Rth 1.45°C/W.
- * Modular design with mounting holes foreseen for direct mounting of GE lighting Infusion™ LED engines.
- * Diameter 96.0mm - standard height 50mm Other heights on request.
- * Forged from highly conductive aluminum.

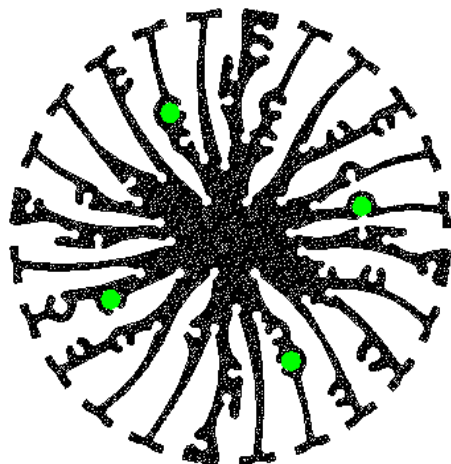


Zhaga LED engine and radiator assembly is a unified future international standardization

- * 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;



for

LED



EtraLED

EtraLED-GE-9650 GE Modular Passive Star Heat Sink Φ 96mm

Mounting Options and Drawings & Dimensions

Example: EtraLED-GE-9650-B-1

Example: EtraLED-GE-96 **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

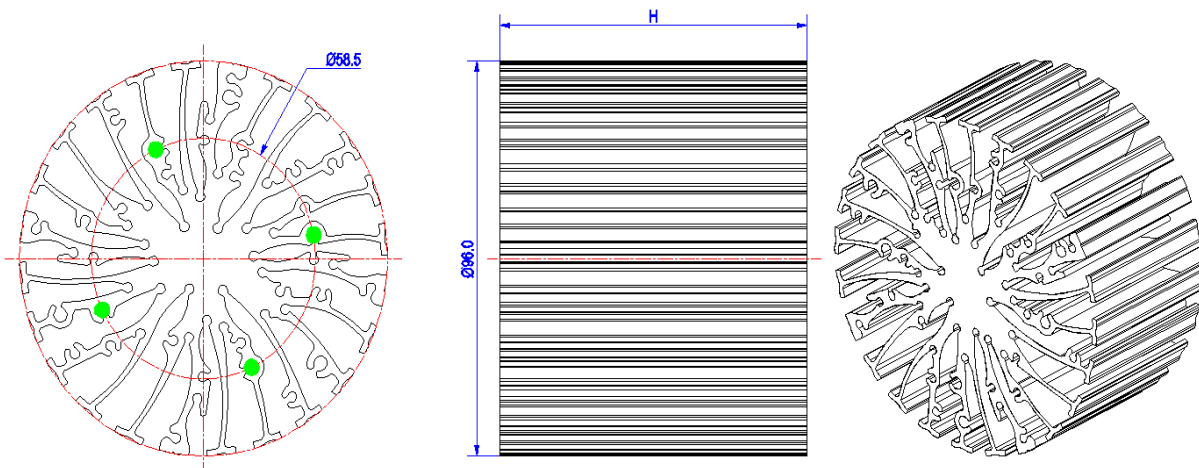


GE Lighting

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	Φ 58.4mm/ 4-M3.5 (Zhaga book5)



EtraLED

EtraLED-GE-9650 GE Modular Passive Star Heat Sink Φ96mm

The product data table

	Model No.	EtraLED-GE-9650
	Heatsink Size	Φ96xH50mm
	Heatsink Material	AL6063-T5
	Finish	Black Anodized
	Weight (g)	458.0
	Dissipated power (T_{hs-amb},50°C)	34.5 (W)
	Cooling surface area (mm²)	114836
	Thermal Resistance (R_{hs-amb})	1.45 (°C/W)

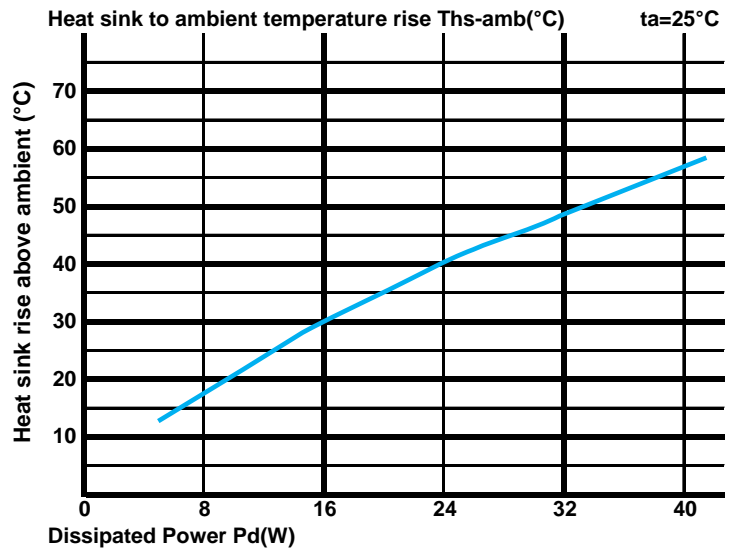
The thermal data table

* 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;

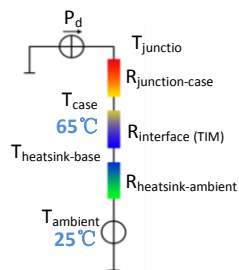
Dissipated Power Pd(W)	Pd = Pe x (1-ηL)	
	Heat sink to ambient thermal resistance R _{hs-amb} (°C/W)	Heat sink to ambient temperature rise T _{hs-amb} (°C)
EtraLED-GE-9650		
8.0	2.25	18.0
16.0	1.88	30.0
24.0	1.67	40.0
32.0	1.50	48.0
40.0	1.40	56.0



*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: $\theta = (T_{hs} - T_a) / P_d$

θ - Thermal Resistance [°C/W]; T_{hs} - Heatsink temperature ; T_a - 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_{junction-case}

the thermal resistance of the TIM outside the package is R_{interface (TIM)} [°C/W], the thermal resistance with the heat sink is R_{heatsink-ambient} [°C/W], and the ambient temperature is T_{ambient} [°C].

*Thermal resistances outside the package R_{interface (TIM)} and R_{heatsink-ambient} can be integrated into the thermal resistance R_{case-ambient} at this point. Thus, the following formula is also used:

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