EtraLED

### EtraLED-GE-13050 GE Modular Passive Star Heat Sink Φ130mm

Features VS Benefits

* The EtraLED-GE-13050 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 2700 to 6,900 lumen.
* Thermal resistance range Rth 1.09°C/W.
* Modular design with mounting holes foreseen for direct mounting of GE lighting Infusion™ LED engines.
* Diameter 130.0mm - standard height 50mm Other heights on request.
* Forged from highly conductive aluminum.
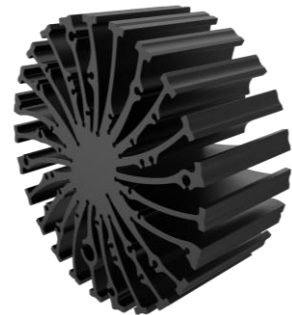
Zhaga LED engine and radiator assembly is a unified future international standardization

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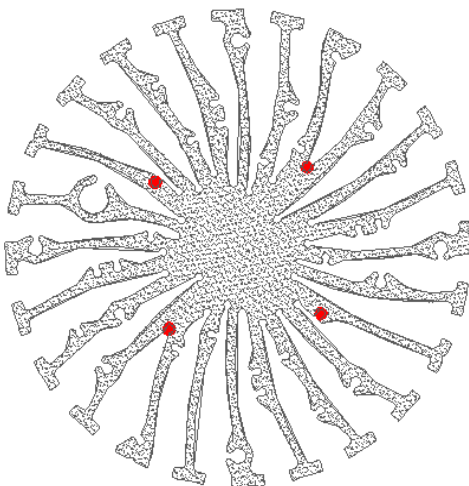
GE lighting LED engines for which Zhaga book5 LED Modules holders are available.

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;

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EtraLED-GE-13050 GE Modular Passive Star Heat Sink Φ130mm

Mounting Options and Drawings & Dimensions

Example:EtraLED-GE-13050-B-1

Example:EtraLED-GE-130 **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

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	Φ58.4mm/ 4-M3.5 (Zhaga book5)
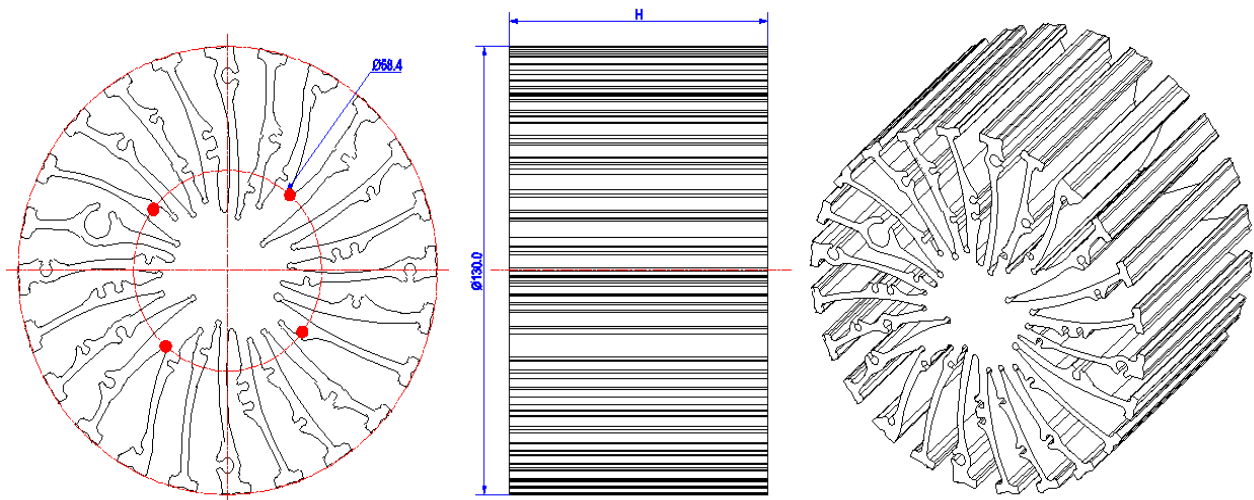
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EtraLED-GE-13050 GE Modular Passive Star Heat Sink Φ130mm

The product deta table

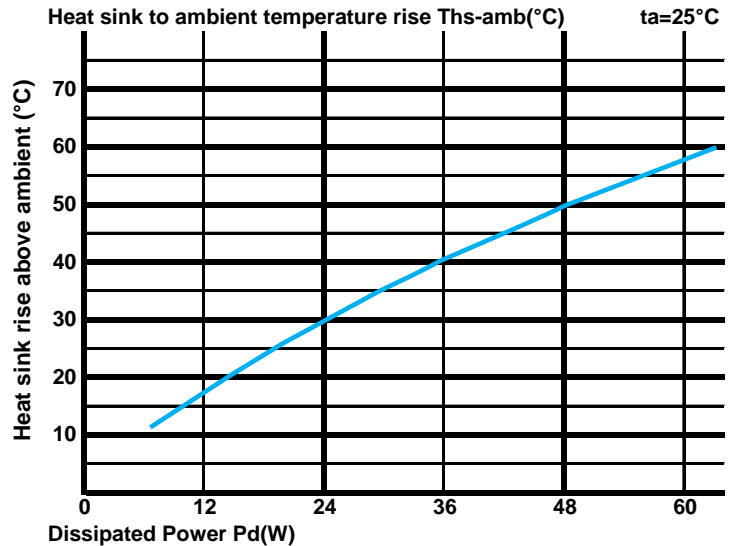| EtraLED	Model No.	EtraLED-GE-13050
	Heatsink Size	Φ130xH50mm
	Heatsink Material	AL6063-T5
	Finish	Black Anodized
	Weight (g)	553.0
	Dissipated power (Ths-amb,50℃)	49.0 (W)
	Cooling surface area (mm²)	157205
	Thermal Resistance (Rhs-amb)	1.02 (°C/W)

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).

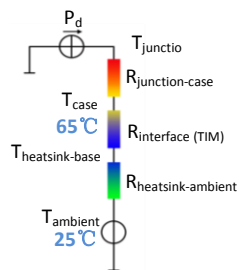Pd - Dissipated power ; Pe - Electrical power ; ηL = Light effciency of the LED module;

Pd = Pe x (1-ηL)	Heat sink to ambient thermal resistance Rhs-amb (°C/W)	Heat sink to ambient temperature rise Ths-amb (°C)
	EtraLED-GE-13050	
Dissipated Power Pd(W) 12.0	1.33	16.0
24.0	1.21	29.0
36.0	1.11	40.0
48.0	1.03	49.5
60.0	0.95	57.0

Heat sink to ambient temperature rise Ths-amb(°C)   **ta=25°C**

*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.

P_d

$T_{junctio}$

$R_{junction-case}$

T_{case} **65℃**

$R_{interface (TIM)}$

$T_{heatsink-base}$

$R_{heatsink-ambient}$

$T_{ambient}$ **25℃**

*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: $\theta = (Ths-Ta)/Pd$

θ - 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 $R_{junction-case}$, 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:

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

Mingfa TECH