



for

LED



GooLED

### GooLED-GE-11050 Pin Fin LED Heat Sink $\Phi$ 110mm for GE Lighting

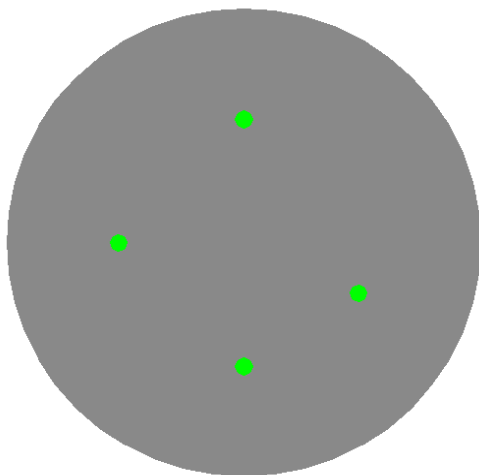
#### Features VS Benefits

- \* The GooLED-GE-11050 GE Lighting Pin Fin LED Heat Sinks are specifically designed for 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 1,300 to 3,600 lumen.
- \* Thermal resistance range  $R_{th}$  1.6°C/W.
- \* Modular design with mounting holes foreseen for direct mounting of GE lighting Infusion™ LED engines.
- \* Diameter 110mm - 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 Lighting engines COB's and LED modules which standard fit on the Pin Fin 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 LED Pin Fin LED Heat Sink.



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™ DLM3000

- 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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**GooLED-GE-11050 Pin Fin LED Heat Sink  $\Phi$ 110mm for GE Lighting**

**Mounting Options and Drawings & Dimensions**

Example:GooLED-GE-11050-B-1

Example:GooLED-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

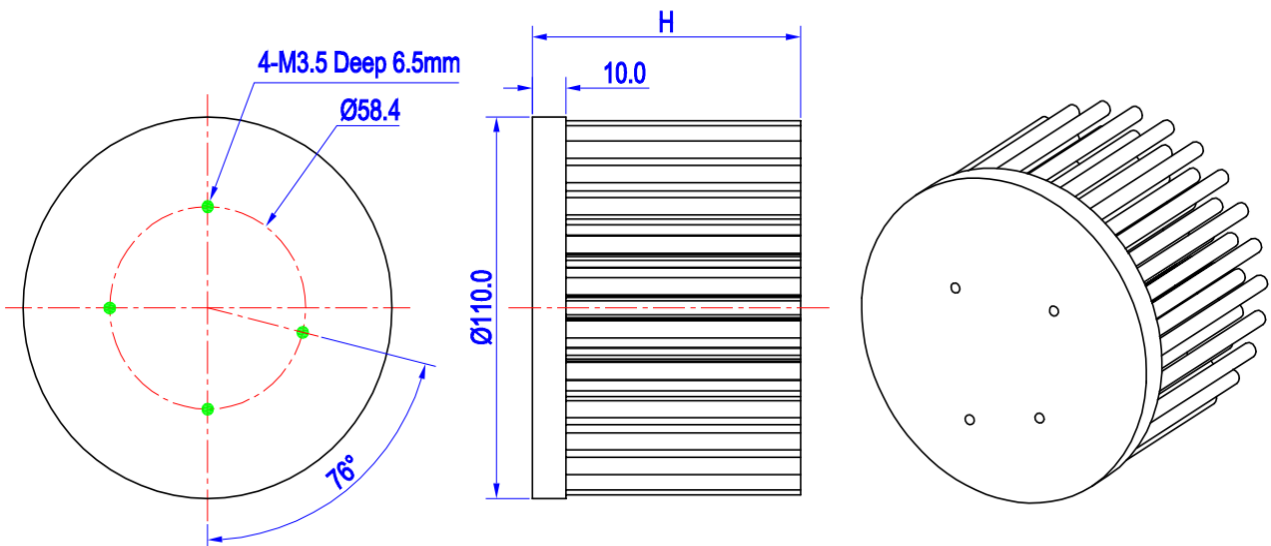


GE Lighting

**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)



## GooLED

### GooLED-GE-11050 Pin Fin LED Heat Sink $\Phi 110\text{mm}$ for GE Lighting

#### The product data table

	<b>Model No.</b>	GooLED-GE-11050
	<b>Heatsink Size</b>	$\Phi 110 \times H50\text{mm}$
	<b>Heatsink Material</b>	AL1070
	<b>Finish</b>	Black Anodized
	<b>Weight (g)</b>	463.0
	<b>Dissipated power (Ths-amb,40°C)</b>	25.0 (W)
	<b>Cooling surface area (mm<sup>2</sup>)</b>	83372
	<b>Thermal Resistance (Rhs-amb)</b>	1.6 (°C/W)

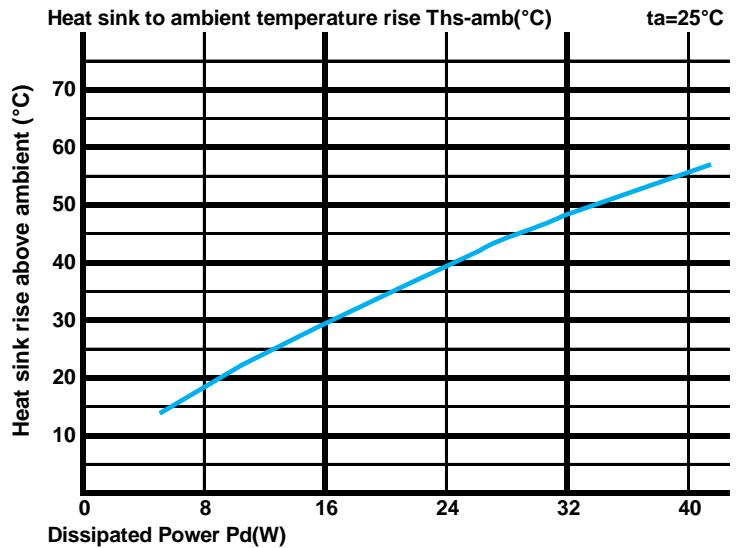
#### The thermal data table

\* 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:  $P_d = P_e \times (1 - \eta_L)$ .

Pd - Dissipated power ; Pe - Electrical power ;  $\eta_L$  = Light efficiency of the LED module;

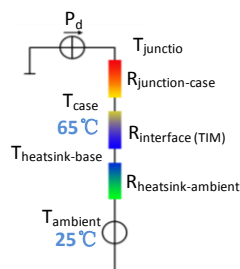
Dissipated Power Pd(W)	Pd = Pe x (1- $\eta_L$ )	Heat sink to ambient thermal resistance Rhs-amb (°C/W)	Heat sink to ambient temperature rise Ths-amb (°C)
		GooLED-GE-11050	
8.0		2.25	18.0
16.0		1.81	29.0
24.0		1.63	39.0
32.0		1.50	48.0
40.0		1.38	55.0



\*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 flow.

Geometric shapes are different, the thermal resistance is different. Formula:  $\theta = (T_{hs} - T_a) / P_d$

$\theta$  - Thermal Resistance [°C/W];  $T_{hs}$  - Heatsink temperature;  $T_a$  - Ambient temperature

\*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:

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