GooLED

GooLED-LG-8650 Pin Fin Heat Sink Φ86.5mm for LG Innotek

Features VS Benefits

* The GooLED-LG-8650 LG Innotek Pin Fin LED Heat Sinks are specifically designed for luminaires using the LG Innotek 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 1,600 to 4,400 lumen.
* Thermal resistance range Rth 1.85°C/W.
* Modular design with mounting holes foreseen for direct mounting of LG Innotek COB series.
* Diameter 86.5mm - standard height 50.0mm 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 LG Innotek 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.
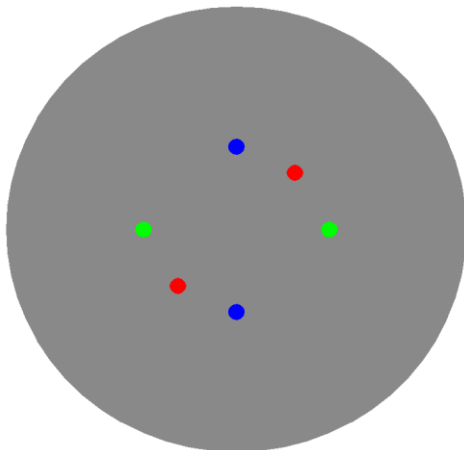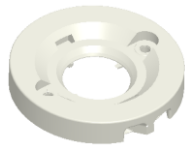
LG Innotek LED Modules directly Mounting Options

LG Innotek 42W&56W COB series.

    LEMWM28D80xxxxxx;
    LEMWM28D90xxxxxx;
    LEMWM28E80xxxxxx;
    LEMWM28E90xxxxxx;

With the Zhaga Book 3 holders for the green indicator marks.
TE Connectivity Holder: 2213480-1;
BJB Holder:47.319.2030.50;
Without the holders for the blue indicator marks.
Direct mounting with machine screws M3x6.5mm.

LG Innotek 21W&32W COB series.

    LEMWM24980xxxxxx;
    LEMWM24990xxxxxx;
    LEMWM24B80xxxxxx;
    LEMWM24B90xxxxxx;

With the Zhaga Book 3 holders for the green indicator marks.
TE Connectivity Holder: 2213130-1;
BJB Holder:47.319.2011.50;
Without the holders for the red indicator marks.
Direct mounting with machine screws M3x6.5mm.

With the LEDiL products:
Olivia series: FN14637-S;   FN14828-M;

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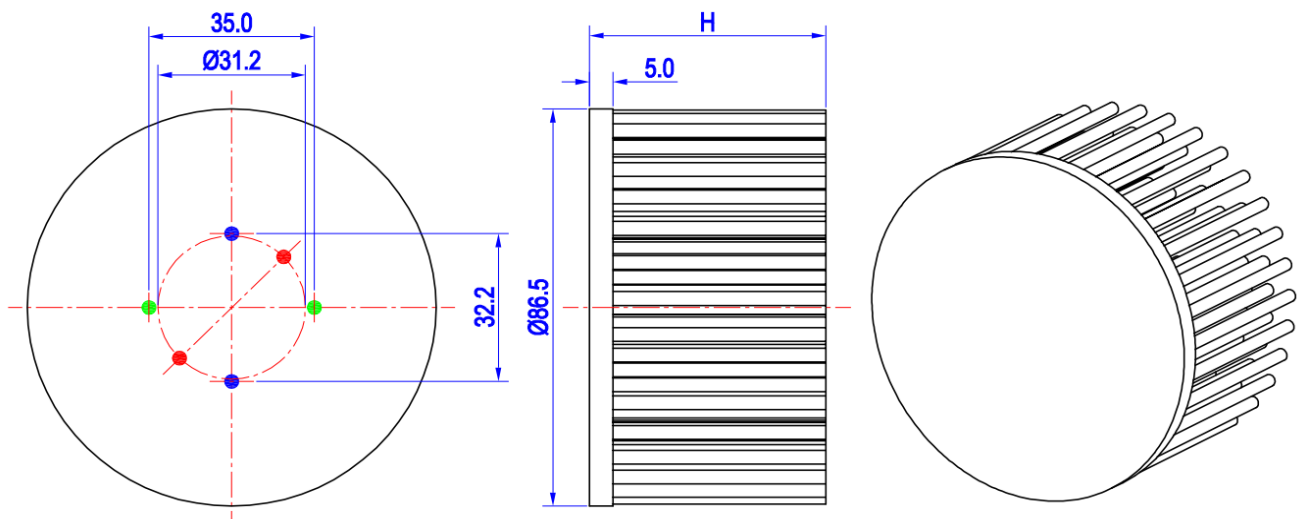### Mounting Options and Drawings & Dimensions

Example:GooLED-LG-8650-B-1,2

Example:GooLED-LG-86 `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.	LEDiL products		THREAD	THREAD DEPTH	THREAD HOLE DISTANCE
			Stella Series	Olivia series			
1	21W&32W COB	/			M3	6.5mm	31.2mm/ 2-@180°
2	42W&56W COB	/			M3	6.5mm	32.2mm/ 2-@180°
3	21W&32W COB	BJB Holder 47.319.2011.50	/	FN14637-S; FN14828-M;	M3	6.5mm	35.0mm/ 2-@180° (Zhaga Book 3)
		TE Holder 2213130-1					
	42W&56W COB	BJB Holder 47.319.2030.50					
		TE Holder 2213480-1					

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The product deta table

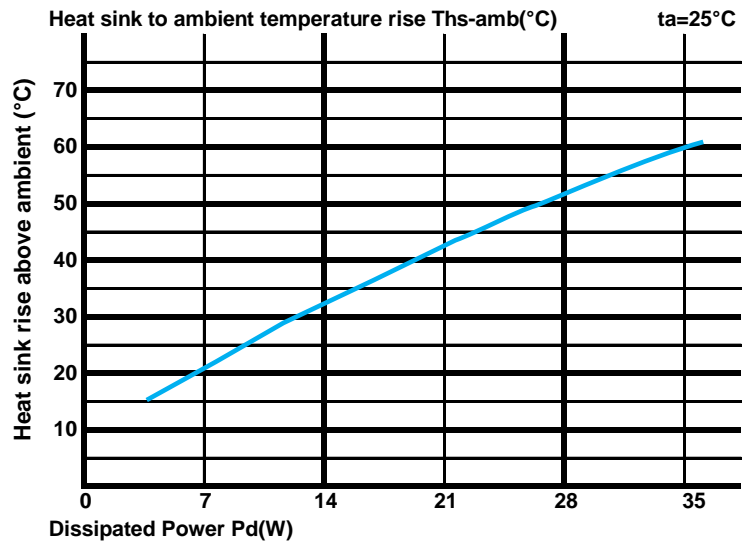| GooLED	Model No.	GooLED-LG-8650
	Heatsink Size	Φ86.5xH50mm
	Heatsink Material	AL1070
	Finish	Black Anodized
	Weight (g)	210.0
	Dissipated power (Ths-amb,50℃)	27.0 (W)
	Cooling surface area (mm²)	77577
	Thermal Resistance (Rhs-amb)	1.85 (°C/W)

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;

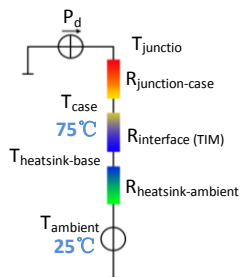| Pd = Pe x (1-ηL)		Heat sink to ambient thermal resistance Rhs-amb (°C/W)	Heat sink to ambient temperature rise Ths-amb (°C)
		GooLED-LG-8650	
Dissipated Power Pd(W)	7.0	2.86	20.0
	14.0	2.21	31.0
	21.0	2.00	42.0
	28.0	1.82	51.0
	35.0	1.69	59.0

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

(Graph: Heat sink rise above ambient (°C) vs Dissipated Power Pd(W))

*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}

75℃

$R_{interface\ (TIM)}$

$T_{heatsink-base}$

$R_{heatsink-ambient}$

$T_{ambient}$
25℃

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

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

   θ - Thermal Resistance [°C/W] ;   Ths - Heatsink temperature ;   Ta - 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:

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