



for

LED



*GooLED*

### GooLED-LUM-8665 Pin Fin Heat Sink $\Phi$ 86.5mm for LumiLEDs

#### Features VS Benefits

- \* The GooLED-LUM-8665 LumiLEDs Pin Fin LED Heat Sinks are specifically designed for luminaires using the LumiLEDs 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 1,800 to 5,200 lumen.
- \* Thermal resistance range  $R_{th}$  1.56°C/W.
- \* Modular design with mounting holes foreseen for direct mounting of LumiLEDs COB series.
- \* Diameter 86.5mm - standard height 65.0mm 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 LumiLEDs 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.



#### LumiLEDs LED Modules directly Mounting Options

##### LumiLEDs COB series.

- LUXEON CoB 1216: L2C5-xxxx1216E2300;
- LUXEON CoB 1211: L2C5-xxxx1211E1900;

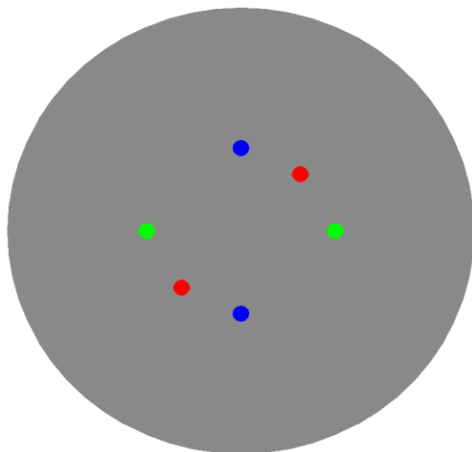
With the Zhaga Book 3 holders for the green indicator marks.  
 TE Connectivity Holder: 2213480-1;  
 BJB Holder: 47.319.2030.50;  
 Without the holders for the blue indicator marks.  
 Direct mounting with machine screws M3x6.5mm.

##### LumiLEDs COB series.

- LUXEON CoB 1208: L2C5-xxxx1208E1500;
- LUXEON CoB 1205: L2C5-xxxx1205E1300;

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;



#### Mounting Options and Drawings & Dimensions

Example:GooLED-LUM-8665-B-1,2

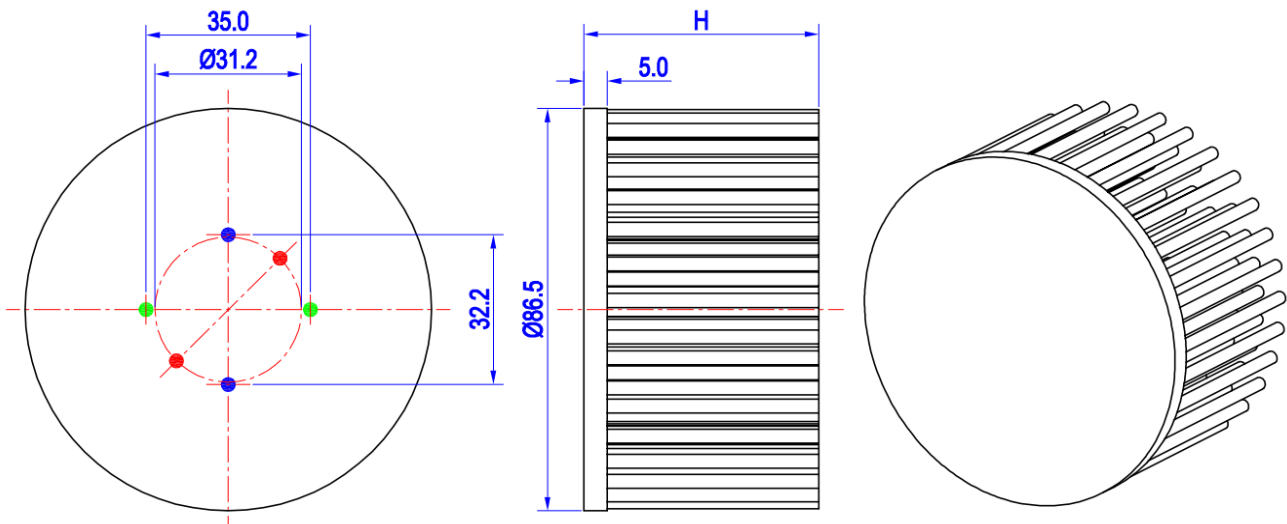
Example:GooLED-LUM-86 **1** - **2** - **3**

- 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               | LUXEON 1205;<br>LUXEON 1208; | /  |                |               | M3     | 6.5mm        | 31.2mm/ 2-@180°                   |
| 2               | LUXEON 1211;<br>LUXEON 1216; | /  |                |               | M3     | 6.5mm        | 32.2mm/ 2-@180°                   |
| 3               | LUXEON 1205;<br>LUXEON 1208; | BJB Holder<br>47.319.2011.50<br>TE Holder<br>2213130-1 |                |               | M3     | 6.5mm        | 35.0mm/ 2-@180°<br>(Zhaga Book 3) |
|                 | LUXEON 1211;<br>LUXEON 1216; | BJB Holder<br>47.319.2030.50<br>TE Holder<br>2213480-1 |                |               |        |              |                                   |



## GooLED

### GooLED-LUM-8665 Pin Fin Heat Sink $\Phi 86.5\text{mm}$ for LumiLEDs

#### The product data table

|  |  |                                  |
|--|--|----------------------------------|
|  | <b>Model No.</b>                                   | GooLED-LUM-8665                  |
|  | <b>Heatsink Size</b>                               | $\Phi 86.5 \times H 65\text{mm}$ |
|  | <b>Heatsink Material</b>                           | AL1070                           |
|  | <b>Finish</b>                                      | Black Anodized                   |
|  | <b>Weight (g)</b>                                  | 293.0                            |
|  | <b>Dissipated power (T<sub>hs-amb</sub>, 50°C)</b> | 32.0 (W)                         |
|  | <b>Cooling surface area (mm<sup>2</sup>)</b>       | 95583                            |
|  | <b>Thermal Resistance (R<sub>hs-amb</sub>)</b>     | 1.56 (°C/W)                      |

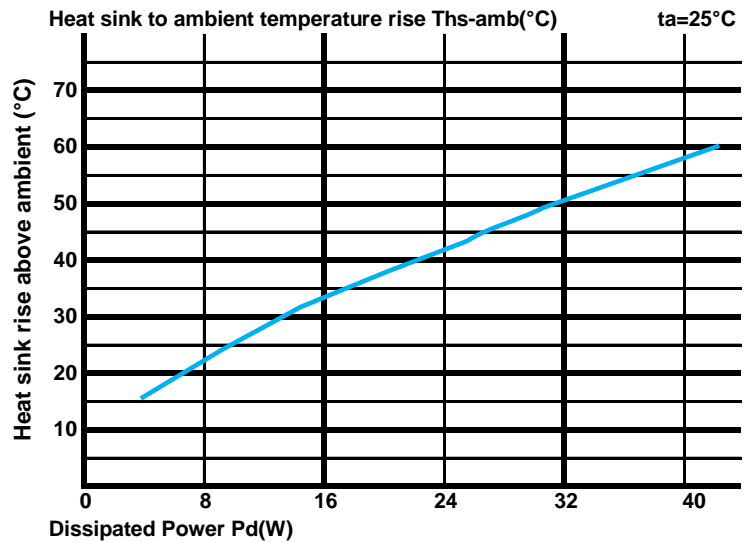
#### The thermal data table

\* 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 R <sub>hs-amb</sub> (°C/W) | Heat sink to ambient temperature rise T <sub>hs-amb</sub> (°C) |
|------------------------|--------------------------|--|--|
|                        |                          | GooLED-LUM-8665  |  |
| 8.0                    |                          | 2.75   | 22.0   |
| 16.0                   |                          | 2.13   | 34.0   |
| 24.0                   |                          | 1.75   | 42.0   |
| 32.0                   |                          | 1.56   | 50.0   |
| 40.0                   |                          | 1.45   | 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 flow.

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

$\theta$  - Thermal Resistance [°C/W] ;  $T_{\text{hs}}$  - Heatsink temperature ;  $T_{\text{a}}$  - 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  $R_{\text{junction-case}}$ , the thermal resistance of the TIM outside the package is  $R_{\text{interface (TIM)}}$  [°C/W], the thermal resistance with the heat sink is  $R_{\text{heatsink-ambient}}$  [°C/W], and the ambient temperature is  $T_{\text{ambient}}$  [°C].

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

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