



# LED

**xLED**

## xLED-LG-6030 Pin Fin Heat Sink $\Phi$ 60mm for LG Innotek

### Features VS Benefits

- \* The xLED-LG-6030 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 500 to 1,600 lumen.
- \* Thermal resistance range Rth 5.0°C/W.
- \* Modular design with mounting holes foreseen for direct mounting of LG Innotek COB series.
- \* Diameter 60.0mm - standard height 30.0mm 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 7W&10W COB series.

- LEMWM19480xxxxxx;
- LEMWM19490xxxxxx;
- LEMWM19680xxxxxx;
- LEMWM19690xxxxxx;

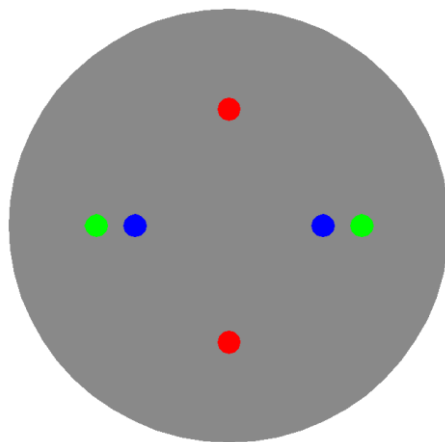
With the Zhaga Book 3 holders for the green indicator marks.  
TE Connectivity Holder: 2213382-1;  
Without the holders for the blue indicator marks.  
Direct mounting with machine screws M3x6.5mm.

#### LG Innotek 16W&21W COB series.

- LEMWM24780xxxxxx;
- LEMWM24790xxxxxx;
- LEMWM24980xxxxxx;
- LEMWM24990xxxxxx;

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: xLED-LG-6030-B-1,2

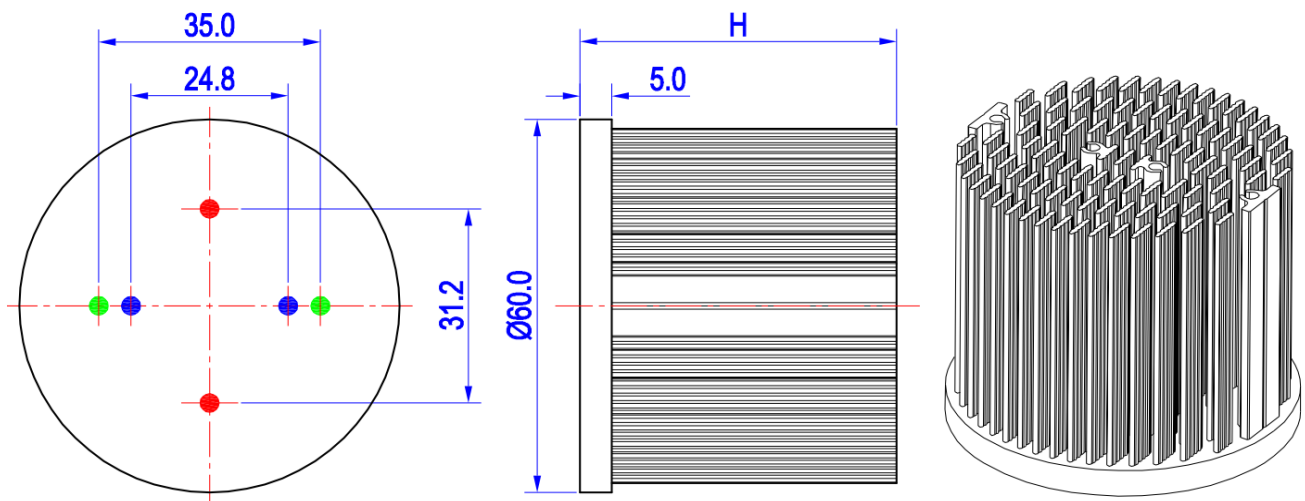
Example: xLED-LG-60 **1** - **2** - **3**

- 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               | 7W&10W COB  | /                            | /              | FN14637-S;<br>FN14828-M; | M3     | 6.5mm        | 24.8mm/ 2-@180°      |
| 2               | /           | /                            |                |                          | M3     | 6.5mm        | 31.2mm/ 2-@180°      |
| 3               | 16W&21W COB | BJB Holder<br>47.319.2011.50 |                |                          | /      | M3           | 6.5mm                |
|                 | 7W&10W COB  | TE Holder<br>2213130-1       |                |                          |        |              |                      |
|                 |             | TE Holder<br>2213382-1       |                |                          |        |              |                      |



The product data table

|  |   |                                |
|--|---|--------------------------------|
|  | Model No.                               | xLED-LG-6030                   |
|  | Heatsink Size                           | $\Phi 60 \times H 30\text{mm}$ |
|  | Heatsink Material                       | AL1070                         |
|  | Finish                                  | Black Anodized                 |
|  | Weight (g)                              | 80.0                           |
|  | Dissipated power (Ths-amb,50°C)         | 10.0 (W)                       |
|  | Cooling surface area (mm <sup>2</sup> ) | 40973                          |
|  | Thermal Resistance (Rhs-amb)            | 5.0 (°C/W)                     |

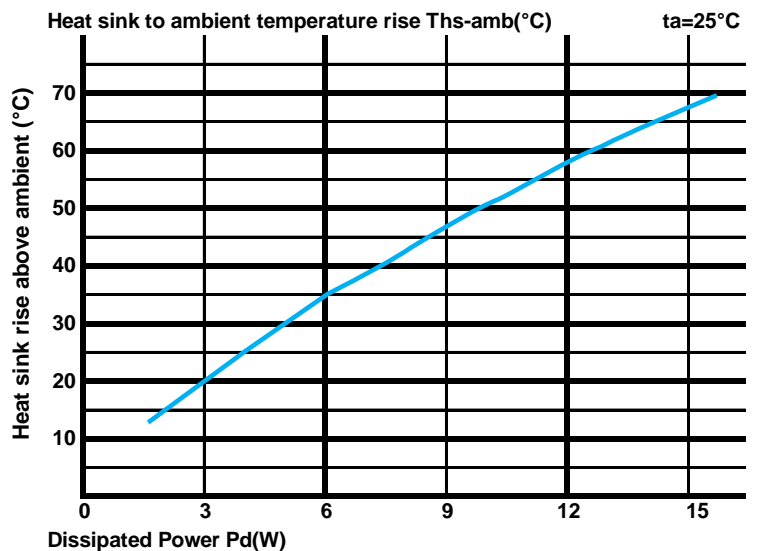
The thermal data table

\* 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;

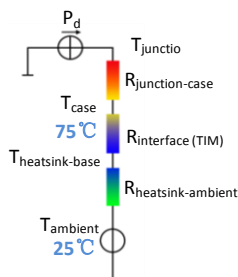
| Dissipated Power Pd(W) | Heat sink to ambient thermal resistance Rhs-amb (°C/W) |      | Heat sink to ambient temperature rise Ths-amb (°C) |  |
|------------------------|--|------|--|--|
|                        | xLED-LG-6030   |      |  |  |
| 3.0                    | 6.67   | 20.0 |  |  |
| 6.0                    | 5.67   | 34.0 |  |  |
| 9.0                    | 5.11   | 46.0 |  |  |
| 12.0                   | 4.83   | 58.0 |  |  |
| 15.0                   | 3.80   | 57.0 |  |  |



\*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] ; 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  $R_{\text{junction-case}}$ , 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:

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