

# xLED

## xLED-16530 Passive Pin Fin Heatsink $\Phi$ 165mm

### Features VS Benefits

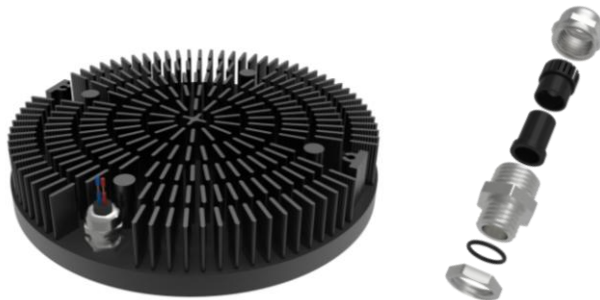
- \* Mechanical compatibility with direct mounting of the SMD products to the LED cooler and thermal performance matching the lumen packages.
- \* For flood light, street light and high bay designs from 3,500 to 8,500 lumen.
- \* Thermal resistance range  $R_{th}$  0.91 °C/W.
- \* Product size: Diameter 165mm - Standard height 30mm , Other widths on request.
- \* Forged from highly conductive aluminium for optimal thermal performance (AL1070), aluminium 1070 thermal conductivity is 2.0 times higher than ADC12.
- \* 2 standard colors - clear anodised - black anodised
- \* Waterproof level designs from IP65 to IP67.
- \* With the SMD products (3030 , 2835 , 5050.....): Bridgelux , Cree , Edison , Citizen , LG Innotek Lumileds , Luminus, Lumens , Nichia , Osram , Prolight Opto , Seoul , Samsung , Sharp.



### The LED engine and radiator assembly directly Mounting Options

- \* Below you find an overview of SMD products which standard fit on the xLED series coolers.
- \* 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 coolers.

### Waterproof connectors & Driver



Not only consider waterproofness of the lens, but also on outside connecting line. Mingfa Tech can provide compatible waterproof connector with xLED heat sink.

#### Features :

- The claws and seals excellent design, can hold cable firmly and have a wider cable range. Resistant to salt water, weak acid, alcohol, oil, grease and common solvency.
- 1、 Working temperature: Min -40°C to Max 120°C.
- 2、 Body material: Brass nickel plated.
- 3、 Cable range Dia: 3-6mm .
- 4、 Protection degree: IP68

#### Mingfa tech product number:

- 1、 21000001-04 (M8)
- 2、 21000002-04 (M10)

#### With the Drivers.

- 1、 MEAN WELL: HBG-60 Series.
- 2、 INVENTRONICS: EUR-096Sxxx Series.

### Order Information

Example: xLED-16530-B

Example: xLED-16530 - **1**

#### **1** Anodising Color

- B-Black
- C-Clear
- Z-Custom

#### Notes:

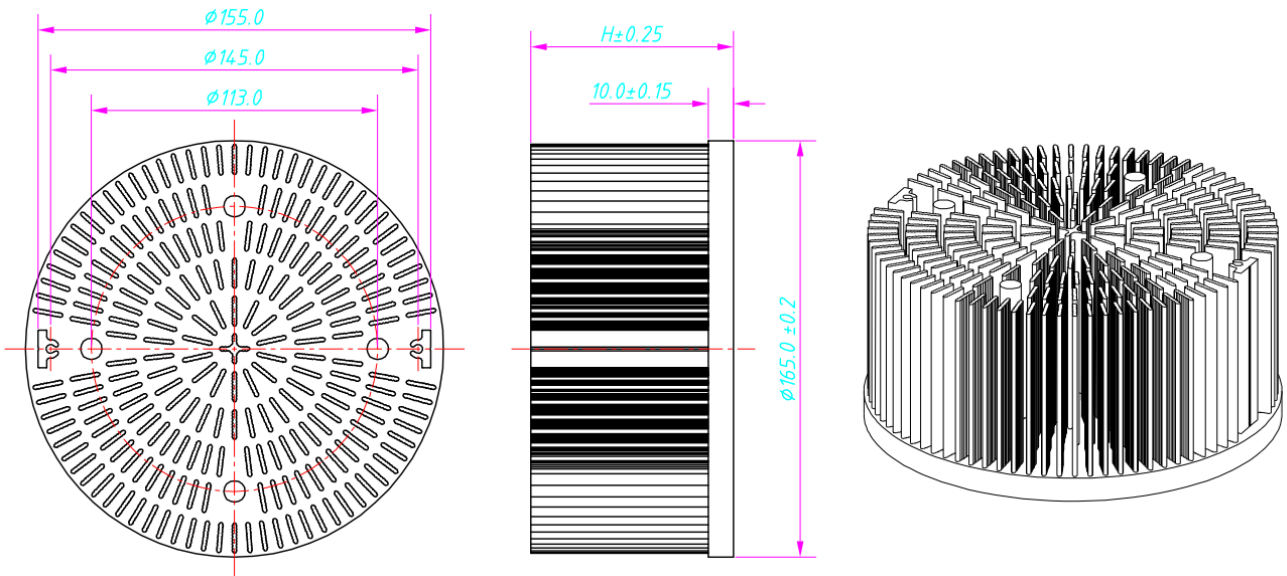
- Mentioned models are an extraction of full product range.
- For specific mechanical adaptations please contact MingfaTech.
- MingfaTech reserves the right to change products or specifications



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**xLED-16530 Passive Pin Fin Heatsink  $\Phi$ 165mm**

**Drawings & Dimensions**



**Product data table**

	
<p><b>Model No.</b></p>	<p><b>xLED-16530</b></p>
<p><b>Heatsink Size</b></p>	<p><b><math>\Phi</math>165xH30mm</b></p>
<p><b>Heatsink Material</b></p>	<p><b>AL1070</b></p>
<p><b>Finish</b></p>	<p><b>Black Anodized</b></p>
<p><b>Weight (Kg)</b></p>	<p><b>0.83</b></p>
<p><b>Dissipated power (T<sub>hs</sub>-amb,50°C)</b></p>	<p><b>55.0 (W)</b></p>
<p><b>Cooling surface area (mm<sup>2</sup>)</b></p>	<p><b>173714</b></p>
<p><b>Thermal Resistance (R<sub>hs</sub>-amb)</b></p>	<p><b>0.91 (°C/W)</b></p>



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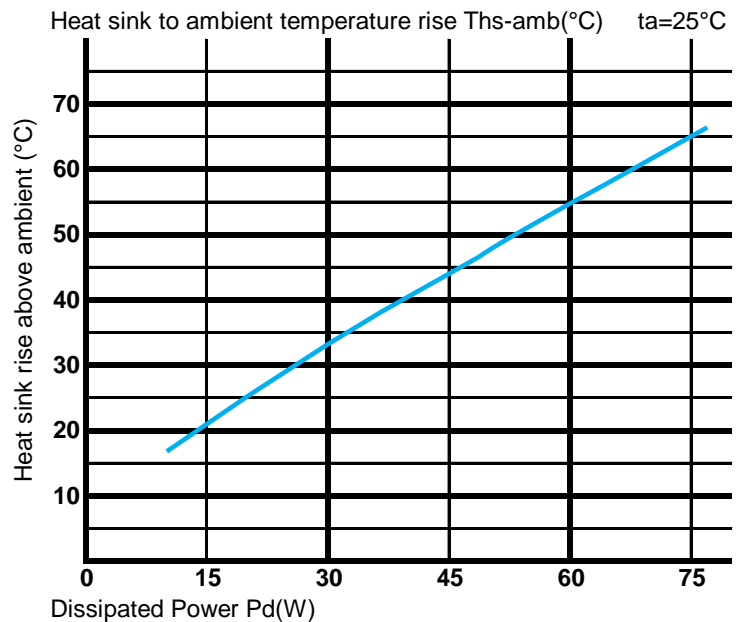
#### The thermal data table

\* Please be aware the dissipated power  $P_d$  is not the same as the electrical power  $P_e$  of a LED module.

\*To calculate the dissipated power please use the following formula:  $P_d = P_e \times (1-\eta_L)$ .

$P_d$  - Dissipated power ;  $P_e$  - Electrical power ;  $\eta_L$  = Light efficiency of the LED module;

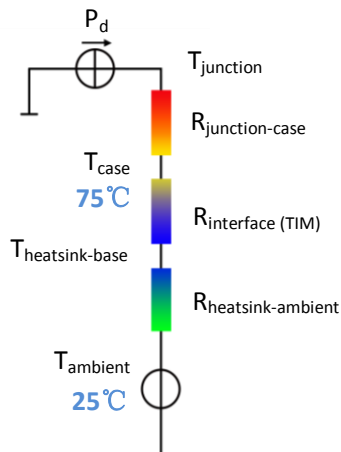
Dissipated Power $P_d$ (W)	Heat sink to ambient thermal resistance $R_{hs-amb}$ ( $^{\circ}\text{C}/\text{W}$ )		Heat sink to ambient temperature rise $T_{hs-amb}$ ( $^{\circ}\text{C}$ )	
	xLED-16530			
15.0	1.40		21.0	
30.0	1.10		33.0	
45.0	0.98		44.0	
60.0	0.90		54.0	
75.0	0.87		65.0	



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

\*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:

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