



for

LED



xLED

### xLED-LUM-8050 Pin Fin Heat Sink $\Phi$ 80mm for LumiLEDs

#### Features VS Benefits

- \* The xLED-LUM-8050 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 1,100 to 3,400 lumen.
- \* Thermal resistance range  $R_{th}$  2.38°C/W.
- \* Modular design with mounting holes foreseen for direct mounting of LumiLEDs COB series.
- \* Diameter 80mm - 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 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 1205HD: L2C5-xxxx1205E1100;
- LUXEON CoB 1204HD: L2C5-xxxx1204E0900

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.

##### LumiLEDs COB series.

- LUXEON CoB 1208: L2C5-xxxx1208E1500;
- LUXEON CoB 1205: L2C5-xxxx1205E1300;
- LUXEON CoB 1204: L2C5-xxxx1204E1300;

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.

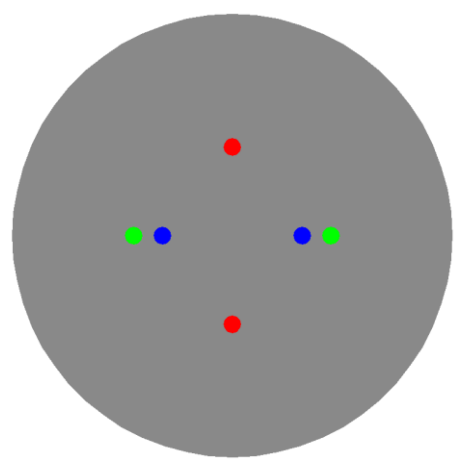
##### With the LEDiL products:

- Olivia series: FN14637-S; FN14828-M;

##### LuXEon CX Plus CoB series.

- LUXEON CoB L08: L2C4-xxxx-L08E1400;
- LUXEON CoB L05: L2C4-xxxx-L05E1200;
- LUXEON CoB L04: L2C5-xxxx-L04E1200;

With the Zhaga Book 3 holders for the green indicator marks.  
TE Connectivity Holder: 2213401-1;  
BJB Holder:47.319.2131.50;  
Direct mounting with machine screws M3x6.5mm.



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Mounting Options and Drawings & Dimensions

Example:xLED-LUM-8050-B-1,2

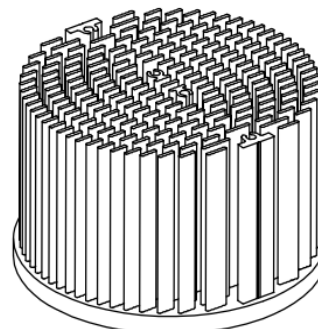
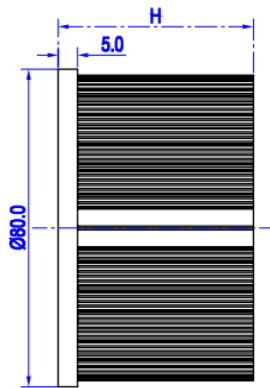
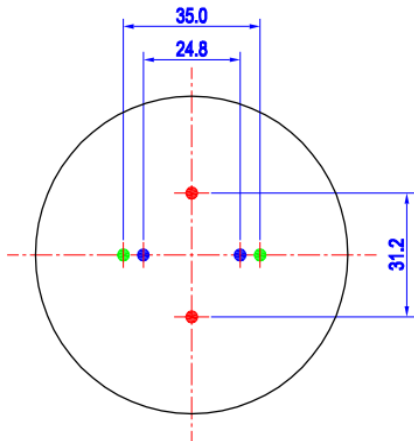
Example:xLED-LUM-80 **1** - **2** - **3**

- 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 1204HD; LUXEON 1205HD;	/			M3	6.5mm	24.8mm/ 2-@180°
2		/			M3	6.5mm	31.2mm/ 2-@180°
3	LUXEON 1204; LUXEON 1205; LUXEON 1208;	BJB Holder 47.319.2011.50 TE Holder 2213130-1	/	FN14637-S; FN14828-M;	M3	6.5mm	35.0mm/ 2-@180° (Zhaga Book 3)
	LUXEON 1204HD; LUXEON 1205HD;	TE Holder 2213382-1					
	LUXEON L04; LUXEON L05; LUXEON L08;	BJB Holder 47.319.2131.50 TE Holder 2213401-1					



## xLED

### xLED-LUM-8050 Pin Fin Heat Sink $\Phi 80\text{mm}$ for LumiLEDs

#### The product data table

	Model No.	xLED-LUM-8050
	Heatsink Size	$\Phi 80 \times H 50\text{mm}$
	Heatsink Material	AL1070
	Finish	Black Anodized
	Weight (g)	197.0
	Dissipated power ( $T_{hs-amb, 50^\circ\text{C}}$ )	21.0 (W)
	Cooling surface area ( $\text{mm}^2$ )	120774
	Thermal Resistance ( $R_{hs-amb}$ )	2.38 ( $^\circ\text{C}/\text{W}$ )

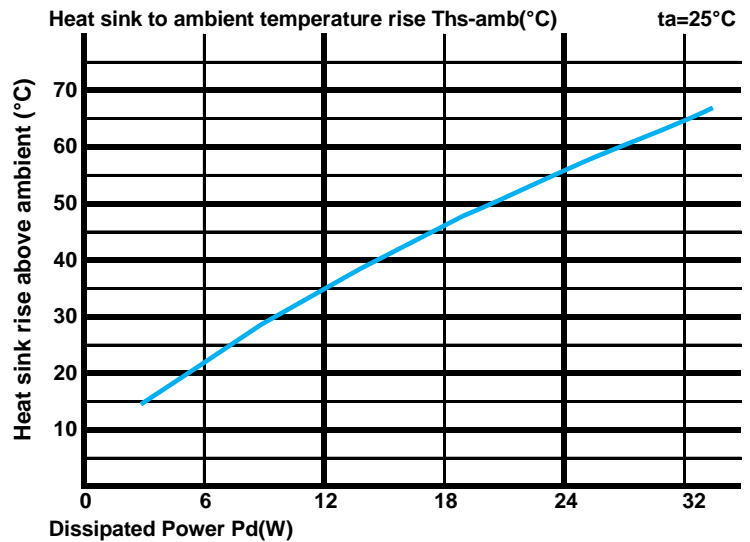
#### The thermal data table

\* 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)	$P_d = P_e \times (1 - \eta_L)$	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-LUM-8050	
6.0		3.50	21.0
12.0		2.92	35.0
18.0		2.56	46.0
24.0		2.29	55.0
32.0		2.00	64.0



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

\*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:

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