

xLED

xLED-LUM-4550 Pin Fin Heat Sink Φ 45mm for LumiLEDs

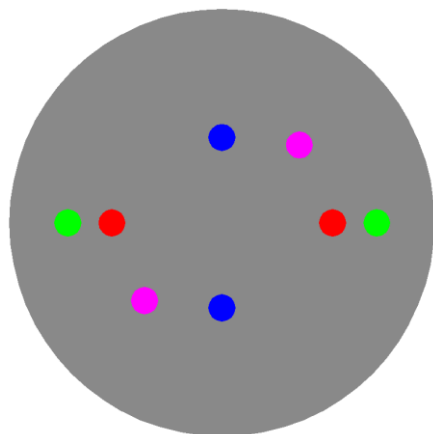
Features VS Benefits

- * The xLED-LUM-4550 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 400 to 1,500 lumen.
- * Thermal resistance range R_{th} 5.55°C/W.
- * Modular design with mounting holes foreseen for direct mounting of LumiLEDs COB series.
- * Diameter 45mm - 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 1202s: L2C5-xxxx1202E0600;
- LUXEON CoB 1202HD: L2C5-xxxx1202EH600;
- With the Zhaga Book 11 holders for the red indicator marks.
- TE Connectivity Holder: 2213118-2;
- BJB Holder: 47.319.6180.50;
- Without the holders for the blue indicator marks.
- Direct mounting with machine screws M3x6.5mm.

LumiLEDs COB series.

- LUXEON CoB 1202: L2C5-xxxx1202E0900;
- LUXEON CoB 1203: L2C5-xxxx1203E0900;
- With the Zhaga Book 3 holders for the green indicator marks.
- TE Connectivity Holder: 2213382-1;
- Without the holders for the pink indicator marks.
- Direct mounting with machine screws M3x6.5mm.

LuXEon CX Plus CoB series.

- LUXEON CoB M02: L2C4-xxxx-M02E0900;
- LUXEON CoB M03: L2C4-xxxx-M03E0900;
- With the Zhaga Book 11 holders for the red indicator marks.
- BJB Holder: 47.319.6104.50;
- Direct mounting with machine screws M3x6.5mm.
- With the LEDiL products:
- Ronda series: FN15xxx-xx;

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Mounting Options and Drawings & Dimensions

Example: xLED-LUM-4550-B-1,2

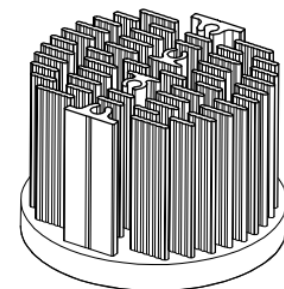
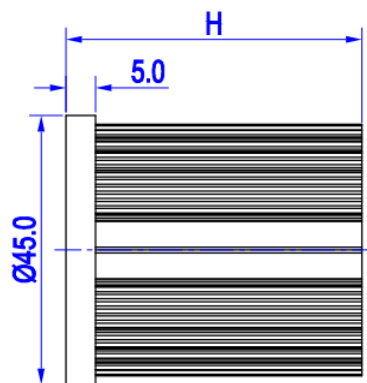
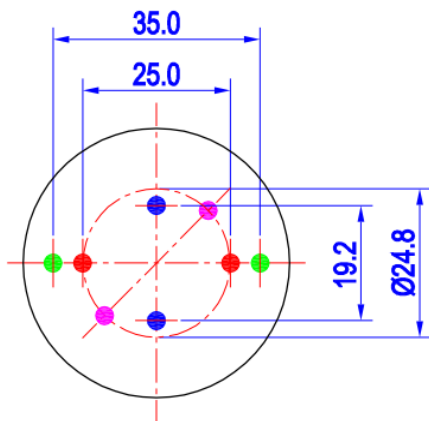
Example: xLED-LUM-45 **1** - **2** - **3**

- 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
			Ronda series	Olivia series			
1	LUXEON 1202s; LUXEON 1202HD;	/	FN15xxx-xx;	/	M3	6.5mm	19.2mm/ 2-@180°
2	LUXEON CoB M02; LUXEON CoB M03;	BJB Holder 47.319.6104.50			M3	6.5mm	25.0mm/ 2-@180°
	LUXEON 1202s; LUXEON 1202HD;	BJB Holder 47.319.6180.50 TE Holder 2213118-2					
3	LUXEON 1202; LUXEON 1203;	/			M3	6.5mm	24.8mm/ 2-@180°
4		TE Holder 2213382-1	M3	6.5mm	35.0mm/ 2-@180° (Zhaga Book 3)		



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The product data table

	Model No.	xLED-LUM-4550
	Heatsink Size	Φ 45xH50mm
	Heatsink Material	AL1070
	Finish	Black Anodized
	Weight (g)	63.5
	Dissipated power (T _{hs-amb} ,50°C)	9.0 (W)
	Cooling surface area (mm ²)	37985
	Thermal Resistance (R _{hs-amb})	5.55 (°C/W)

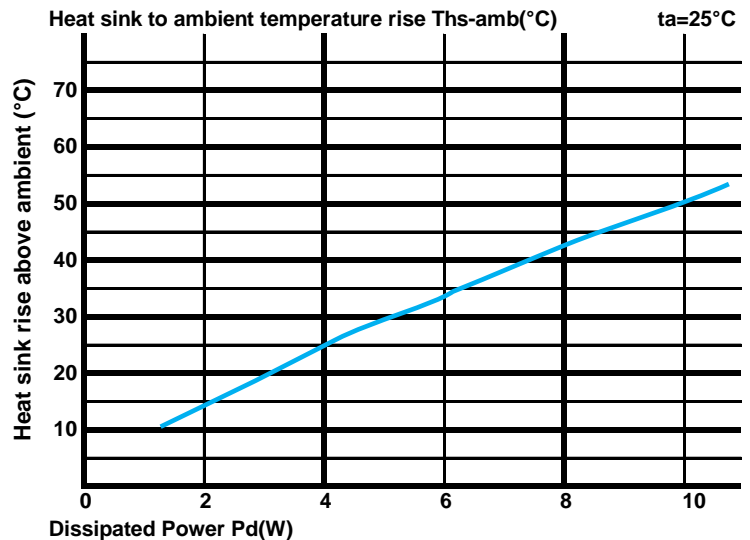
The thermal data table

* 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 efficiency of the LED module;

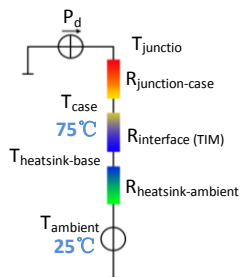
Dissipated Power Pd(W)	Pd = Pe x (1-ηL)	Heat sink to ambient thermal resistance R _{hs-amb} (°C/W)	Heat sink to ambient temperature rise T _{hs-amb} (°C)
		xLED-LUM-4550	
2.0		7.00	14.0
4.0		6.25	25.0
6.0		5.67	34.0
8.0		5.38	43.0
10.0		5.00	50.0



*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: $\theta = (T_{hs} - T_a) / P_d$

θ - Thermal Resistance [°C/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)} [°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:

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