

xLED

xLED-LUN-4530 Pin Fin LED Heat Sink Φ 45mm for Luminus

Features VS Benefits

- * The xLED-LUN-4530 Luminus Pin Fin LED Heat Sinks are specifically designed for luminaires using the Luminus 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 300 to 1,200 lumen.
- * Thermal resistance range R_{th} 7.14°C/W.
- * Modular design with mounting holes foreseen for direct mounting of Luminus COB series.
- * Diameter 45mm - standard height 30mm, 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 Luminus 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.



Luminus LED Modules directly Mounting Options

Luminus COB series.

- CXM-6-AC;
- CIM/ CLM/CXM-9 -AC;

With the Zhaga Book 11 holders for the green indicator marks.
TE Connectivity Holder: 2213678-5;
BJB Holder:47.319.6060.50;
Without the holders for the pink indicator marks.
Direct mounting with machine screws M3x6.5mm.

With the LEDiL products:

- Lena series: CN14xxx; C12xxx;
- Lenina series: CN14xxx; C12xxx;

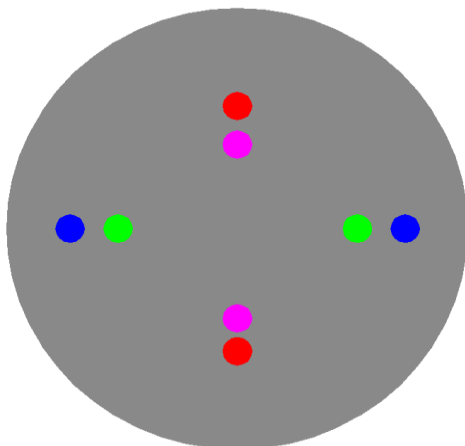
Luminus COB series.

- CXM-11-AC;
- CIM/CLM/CXM-14;

With the Zhaga Book 3 holders for the blue indicator marks.
TE Connectivity Holder: 2213254-1;
BJB Holder:47.319.2021.50;
Without the holders for the red indicator marks.
Direct mounting with machine screws M3x6.5mm.

With the LEDiL products:

- Lena series: CN12xxx;
- Lenina series: CN12xxx; C12xxx;



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Mounting Options and Drawings & Dimensions

Example: xLED-LUN-4530-B-1,2

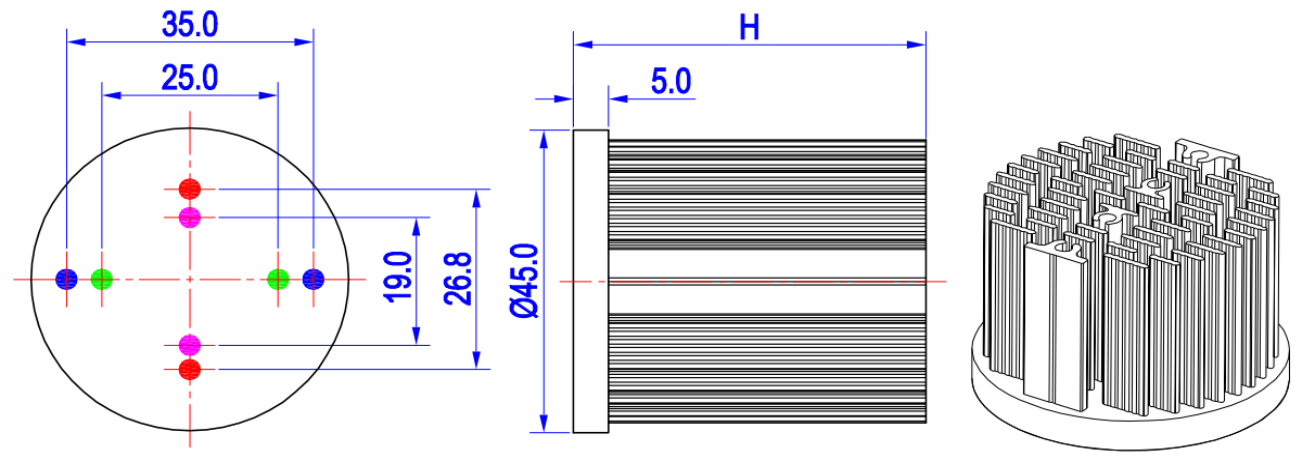
Example: xLED-LUN-45 **1** - **2** - **3**

- 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
			Lenina Series	Lena series			
1	CXM-6-AC; CIM/ CLM/CXM-9 -AC;	/	CN14xxx; C12xxx;	CN14xxx; C12xxx;	M3	6.5mm	19.0mm/ 2-@180°
2		BJB Holder 47.319.6060.50 TE Holder 2213678-5			M3	6.5mm	25.0mm/ 2-@180° (Zhaga book 11)
3	CXM-11; CIM/CLM/CXM-14	/	CN12xxx; C12xxx;	CN12xxx;	M3	6.5mm	26.8mm/ 2-@180°
4		BJB Holder 47.319.2021.50 TE Holder 2213254-1			M3	6.5mm	35.0mm/ 2-@180° (Zhaga book 3)





for LED

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The product data table

	Model No.	xLED-LUN-4530
	Heatsink Size	Φ 45xH30mm
	Heatsink Material	AL1070
	Finish	Black Anodized
	Weight (g)	45.0
	Dissipated power (Ths-amb,50°C)	7.0 (W)
	Cooling surface area (mm²)	22830
	Thermal Resistance (Rhs-amb)	7.14 (°C/W)

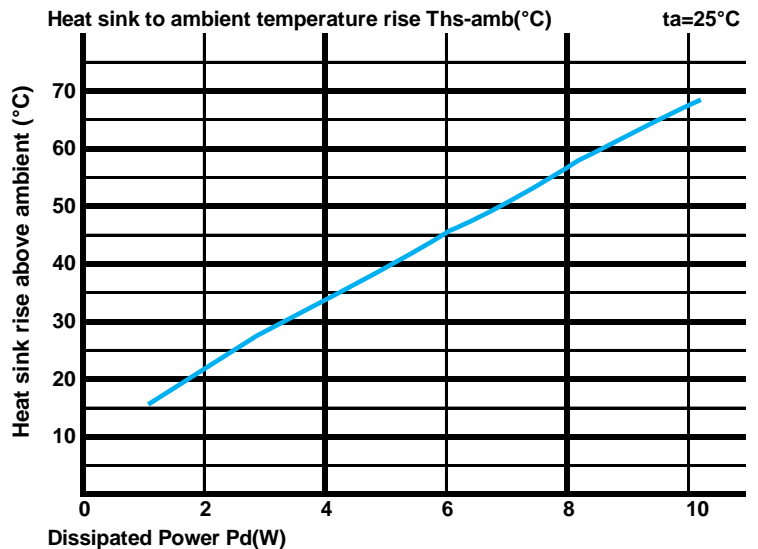
The thermal data table

* 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 ; η_L = Light efficiency of the LED module;

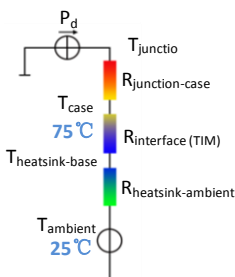
Dissipated Power Pd(W)	Heat sink to ambient thermal resistance Rhs-amb (°C/W)		Heat sink to ambient temperature rise Ths-amb (°C)	
	xLED-LUN-4530			
2.0	10.50	21.0		
4.0	8.50	34.0		
6.0	7.50	45.0		
8.0	7.00	56.0		
10.0	6.70	67.0		



*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:

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