xLED

xLED-LUM-4530 Pin Fin Heat Sink Φ45mm for LumiLEDs

Features VS Benefits

* The xLED-LUM-4530 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 300 to 1,200 lumen.
* Thermal resistance range Rth 7.14°C/W.
* Modular design with mounting holes foreseen for direct mounting of LumiLEDs 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 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.
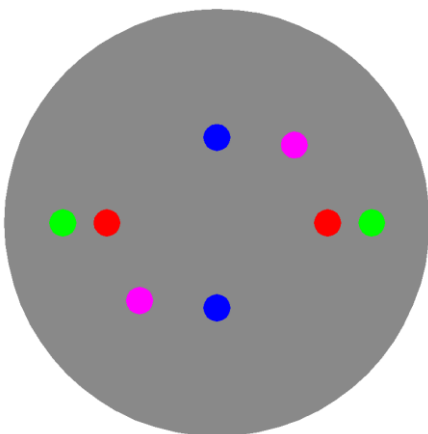
LumiLEDs LED Modules directly Mounting Options

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-4530-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)
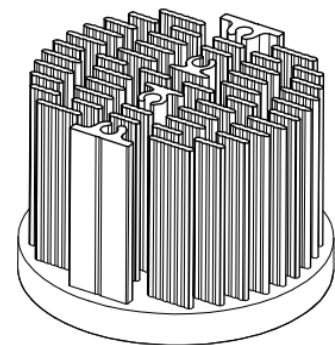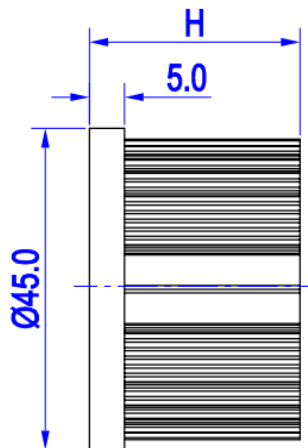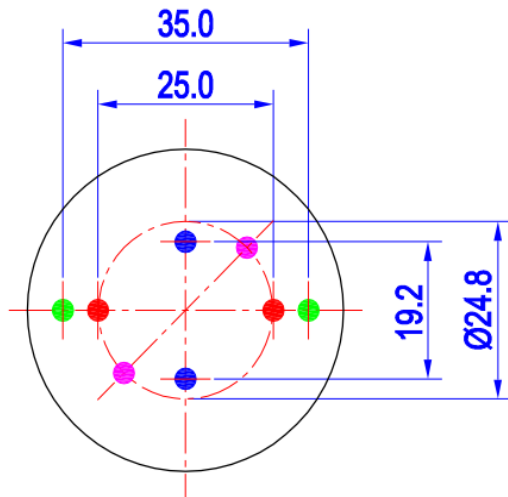
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The product deta table

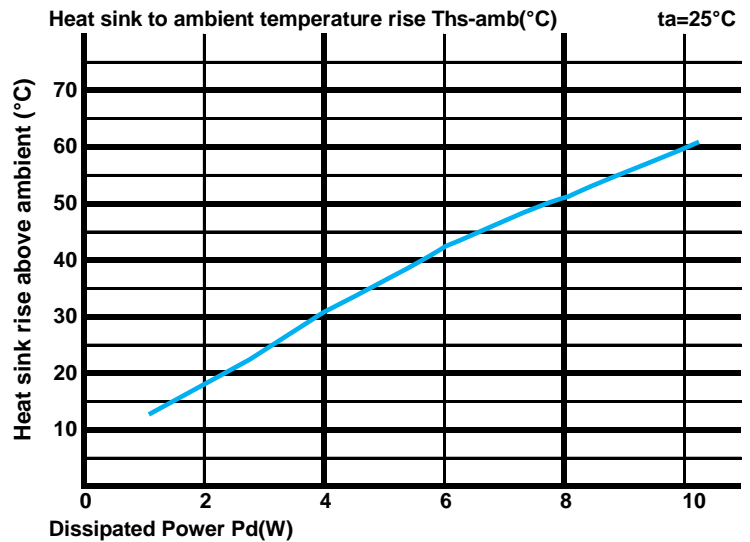| Model No.	xLED-LUM-4530
Heatsink Size	Φ45xH30mm
Heatsink Material	AL1070
Finish	Black Anodized
Weight (g)	45.0
Dissipated power (Ths-amb,50℃)	7.0 (W)
Cooling surface area (mm²)	22830
Thermal Resistance (Rhs-amb)	7.14 (°C/W)

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: Pd = Pe x (1-ηL).

Pd - Dissipated power ; Pe - Electrical power ; ηL = Light effciency of the LED module;

Pd = Pe x (1-ηL)		Heat sink to ambient thermal resistance Rhs-amb (°C/W)	Heat sink to ambient temperature rise Ths-amb (°C)
		xLED-LUM-4530	
Dissipated Power Pd(W)	2.0	9.00	18.0
	4.0	7.50	30.0
	6.0	7.00	42.0
	8.0	6.25	50.0
	10.0	5.90	59.0

Heat sink to ambient temperature rise Ths-amb(°C)   ta=25°C

*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: θ ＝(Ths－Ta)/Pd

θ - 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 $R_{junction-case}$, 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:

$T_{junction}＝(R_{junction-case}+R_{case-ambient})·Pd+T_{ambient}$

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