xLED

xLED-PHI-8050 Pin Fin Heat Sink Φ80mm for Philips

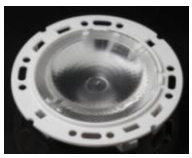
Features VS Benefits

* The xLED-PHI-8050 Philips Pin Fin LED Heat Sinks are specifically designed for luminaires using the Philips 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 Rth 2.38°C/W.
* Modular design with mounting holes foreseen for direct mounting of Philips LED engines.
* Diameter 80.0mm - standard height 50.0mm, Other heights on request.
* Forged from highly conductive aluminum.

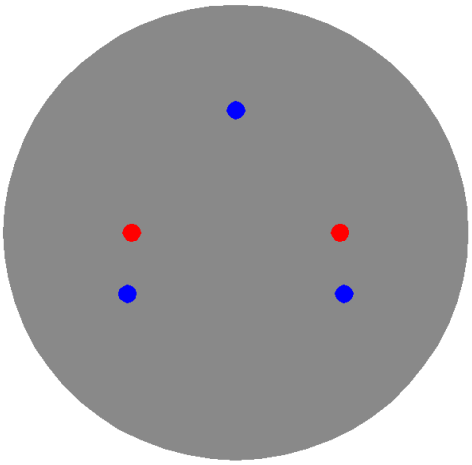
Zhaga LED engine and radiator assembly is a unified future international standardization

* Below you find an overview of Philips 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.

PHILIPS



LEDiL



Philips LED Modules directly Mounting Options

Philips Fortimo SLM LED modules name:

Fortimo SLM C xxx 1205 L13 2024 G6;
Fortimo SLM C xxx 1208 L15 2024 G6;
Fortimo SLM C xxx 1211 L19 2828 G6;
Fortimo SLM C xxx xx 1205 L13 2024 G6;
Fortimo SLM C xxx xx 1208 L13 2024 G6;
Fortimo SLM C xxx xx 1208 L15 2024 G6;
Fortimo SLM C xxx xx 1211 L19 2828 G6;

NO`1:With the Zhaga Book 3 standard, Red indicator marks.
NO`2: Blue indicator marks.
Direct mounting with machine screws M3x6.5mm.

With the LEDiL products:
Ronda series: FN15xxx;
Olivia series: FN14828-M; FN14637-S;

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Mounting Options and Drawings & Dimensions

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

Example:xLED-PHI-80 1 - 2 - 3

1 Height (mm)

2 Anodising Color

B-Black

C-Clear

Z-Custom

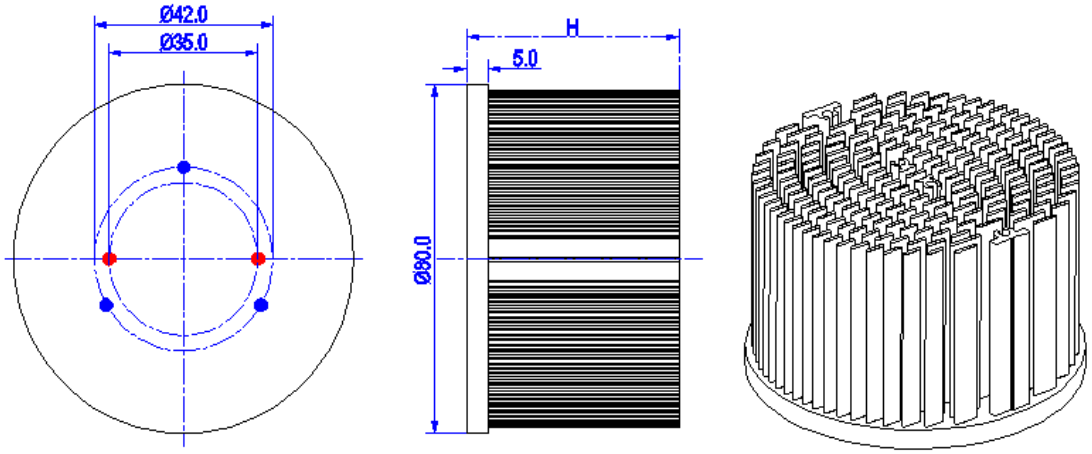
3 Mounting Options - see graphics for details Combinations available

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
			Olivia series	Ronda series			
N	/	None	None	None	None	None	None
1	Fortimo SLM	/	FN14828-M; FN14637-S;	FN15xxx;	M3	6.5mm	35.0mm/ 2-@180° (Zhaga book 3)
2					M3	6.5mm	42.0mm/ 3-@120°



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The product deta table

Model No.	**xLED-PHI-8050**
Heatsink Size	**Φ80xH50mm**
Heatsink Material	**AL1070**
Finish	**Black Anodized**
Weight (g)	**197.0**
Dissipated power (Ths-amb,50℃)	**21.0 (W)**
Cooling surface area (mm^2)	**120774**
Thermal Resistance (Rhs-amb)	**2.38 (°C/W)**

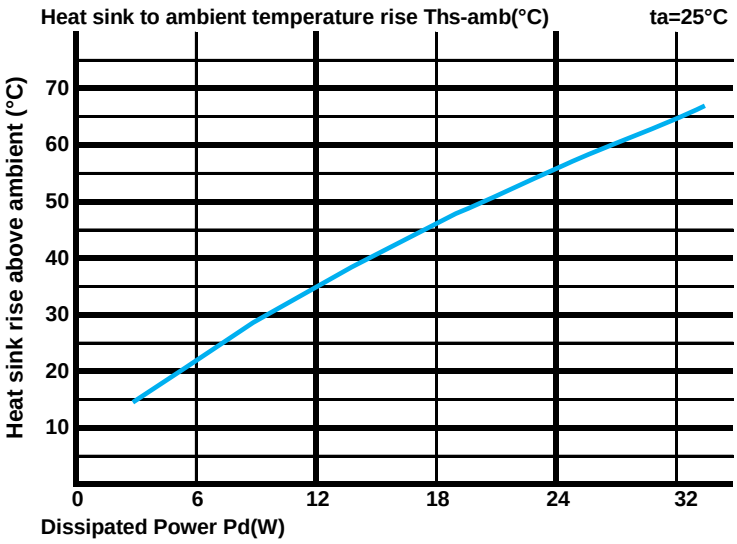
The thermal data table

* 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;

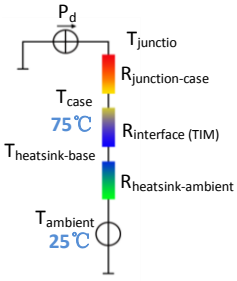
Pd = Pe x (1-ηL)		Heat sink to ambient thermal resistance Rhs-amb (°C/W)	Heat sink to ambient temperature rise Ths-amb (°C)
		xLED-PHI-8050	
Dissipated Power Pd(W)	6.0	3.50	21.0
	12.0	2.92	35.0
	18.0	2.56	46.0
	24.0	2.29	55.0
	32.0	2.00	64.0



*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: 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:

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

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