



for

LED



xLED

### xLED-PRO-7050 Pin Fin LED Heat Sink $\Phi$ 70mm for Prolight Opto

#### Features VS Benefits

- \* The xLED-PRO-7050 Prolight Opto Pin Fin LED Heat Sinks are specifically designed for luminaires using the Prolight Opto 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 1,000 to 2,600 lumen.
- \* Thermal resistance range Rth 3.13°C/W.
- \* Modular design with mounting holes foreseen for direct mounting of Prolight Opto COB series.
- \* Diameter 70.0mm - 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 Prolight Opto 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.



**Prolight Opto LED Modules directly Mounting Options**

**Prolight Opto COB G-II and COB Series:**

PACL-78xxx-xxxx;      PACL-115xxx-xxxx;  
 PACL-86xxx-xxxx;      PACG-110xxx-xxxx;

With the Zhaga Book 3 holders for the green indicator marks.  
 BJB holder: 47.319.2030.50;  
 AAG.STUCCHI: 8102-G2  
 Without the holders for the blue indicator marks.  
 Direct mounting with machine screws M3x6.5mm.

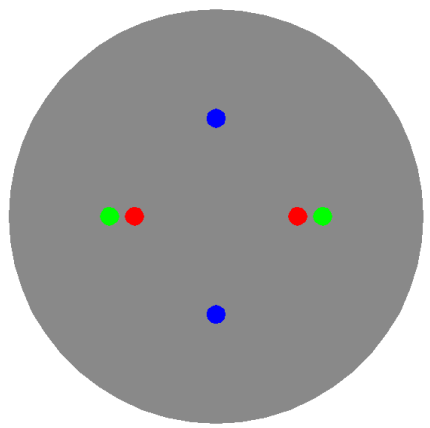
**Prolight Opto LED Modules directly Mounting Options**

**Prolight Opto COB G-II and COB Series:**

PACK-35xxx-xxxx;      PACF-40xxx-xxxx;  
 PACK-42xxx-xxxx;      PACF-35xxx-xxxx;  
 PACK-57xxx-xxxx;

With the Zhaga Book 3 holders for the green indicator marks.  
 BJB holder: 47.319.2021.50;  
 AAG.STUCCHI: 8101-G2  
 Without the holders for the red indicator marks.  
 Direct mounting with machine screws M3x6.5mm.

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



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## Mounting Options and Drawings & Dimensions

Example: xLED-PRO-7050-B-1,2

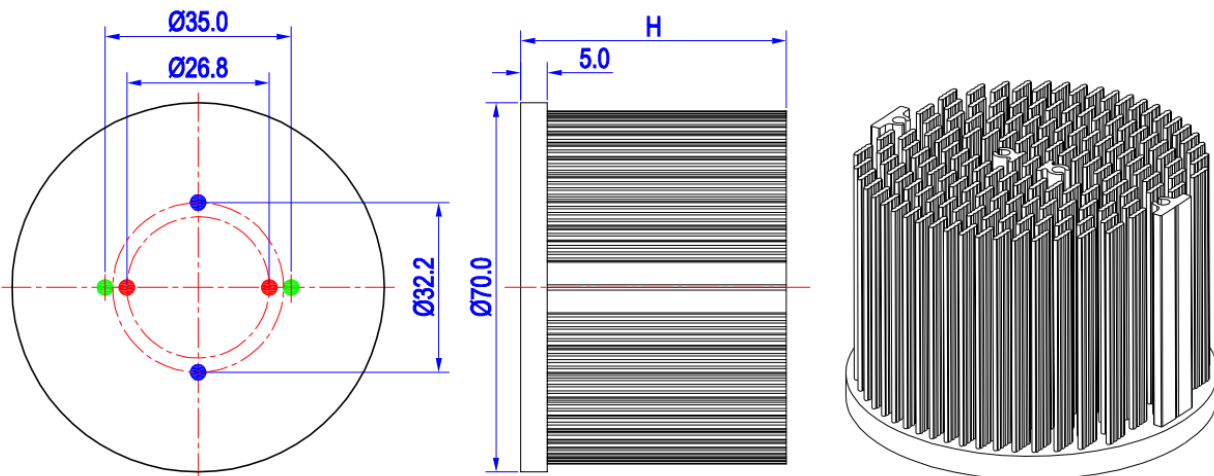
Example: xLED-PRO-70 **1** - **2** - **3**

- 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			
1	COB series (19.0°*19.0)	/	FN14637-S	FN15xxx-xx;	M3	6.5mm	26.8mm/ 2-@180°
2	COB series (28.0°*28.0)	/	/	/	M3	6.5mm	32.2mm/ 2-@180°
3		BJB Holder 47.319.2030.50	/	/	M3	6.5mm	35.0mm/ 2-@180° (Zhaga book 3)
	AAG.STUCCHI 8102-G2						
3	COB series (19.0°*19.0)	BJB Holder 47.319.2021.50	FN14637-S	FN15xxx-xx;			
		AAG.STUCCHI 8101-G2					



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The product data table

	Model No.	xLED-PRO-7050
	Heatsink Size	$\Phi$ 70xH50mm
	Heatsink Material	AL1070
	Finish	Black Anodized
	Weight (g)	150.0
	Dissipated power (Ths-amb,50°C)	16.0 (W)
	Cooling surface area (mm <sup>2</sup> )	91577
	Thermal Resistance (Rhs-amb)	3.13 (°C/W)

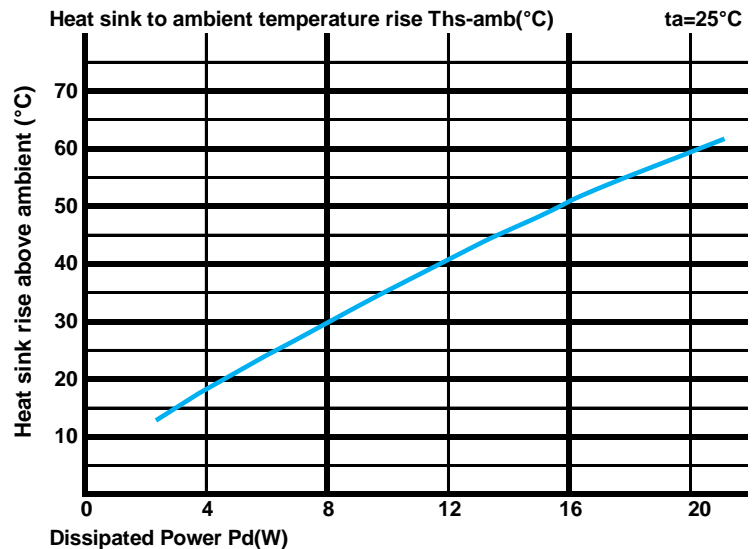
The thermal data table

\* 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;

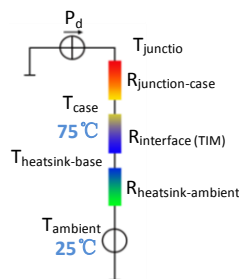
Dissipated Power Pd(W)	Heat sink to ambient thermal resistance Rhs-amb (°C/W)	
	xLED-PRO-7050	
4.0	4.25	17.0
8.0	3.63	29.0
12.0	3.33	40.0
16.0	3.13	50.0
20.0	2.95	59.0



\*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:  $\theta = (Ths - Ta) / Pd$

$\theta$  - 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:

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