



for

LED



GooLED

GooLED-PRO-6860 Pin Fin LED Heat Sink Φ 68mm for Prolight Opto

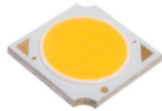
Features VS Benefits

- * The GooLED-PRO-6860 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 2,800 lumen.
- * Thermal resistance range R_{th} 2.94°C/W.
- * Modular design with mounting holes foreseen for direct mounting of Prolight Opto COB series.
- * Diameter 68.0mm - standard height 60.0mm Other heights on request.
- * Forged from highly conductive aluminum.

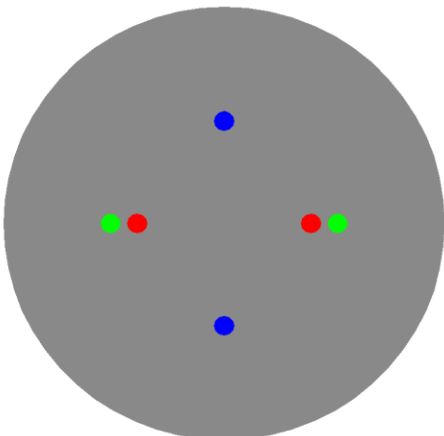


Zhaga LED engine and radiator assembly is a unified future international standardization

- * 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.



STUCCHI
ideas are made of light



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:GooLED-PRO-6860-B-1,2

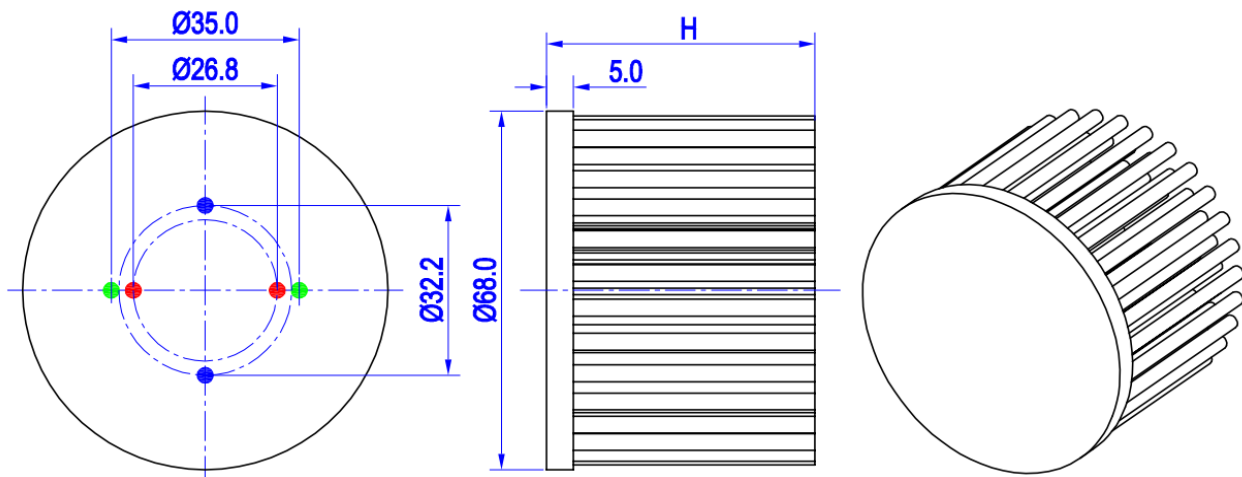
Example:GooLED-PRO-68 **1** - **2** - **3**

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



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GooLED-PRO-6860 Pin Fin LED Heat Sink Φ68mm for Prolight Opto

The product data table

	Model No.	GooLED-PRO-6860
	Heatsink Size	Φ68xH60mm
	Heatsink Material	AL1070
	Finish	Black Anodized
	Weight (g)	176.0
	Dissipated power (T _{hs-amb} ,50°C)	17.0 (W)
	Cooling surface area (mm ²)	70017
	Thermal Resistance (R _{hs-amb})	2.94 (°C/W)

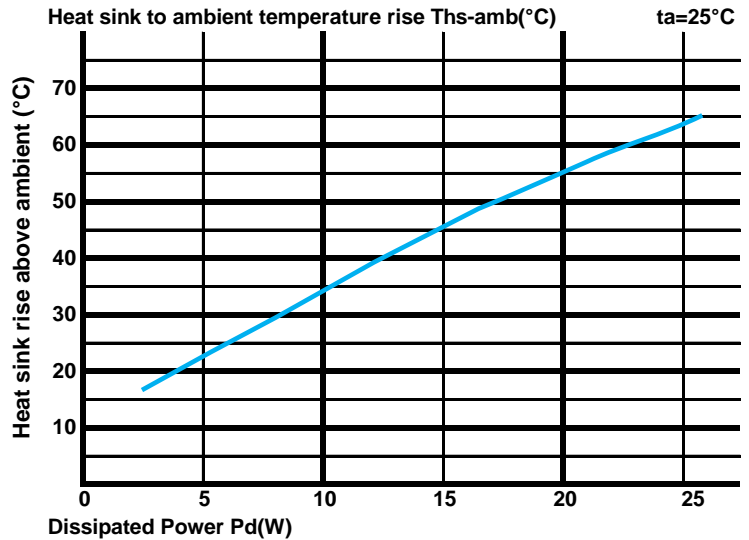
The thermal data table

* 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;

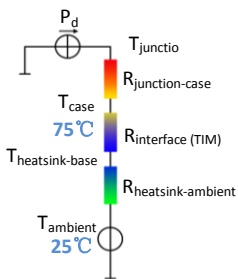
Dissipated Power Pd(W)	Pd = Pe x (1-ηL)	Heat sink to ambient thermal resistance R _{hs-amb} (°C/W)	Heat sink to ambient temperature rise T _{hs-amb} (°C)
		GooLED-PRO-6860	
5.0		4.60	23.0
10.0		3.40	34.0
15.0		3.00	45.0
20.0		2.75	55.0
25.0		1.84	46.0



*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:

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