



## GooLED

### GooLED-SEO-6860 Pin Fin Heat Sink $\Phi$ 68mm for Seoul

#### Features VS Benefits

- \* The GooLED-SEO-6860 Seoul Pin Fin LED Heat Sinks are specifically designed for luminaires using the Seoul 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 Seoul COB series and AC Modules.
- \* 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 Seoul 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.



#### Seoul LED Modules directly Mounting Options

##### Seoul COB Series, Size 28x28mm.

SDW04F1C;	SDW84F1C;
SDW05F1C;	SDW85F1C;
SDW06F1C;	SDW86F1C;
SAW822xxx;	SDW94F1C;
SAW922xxx;	

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.

##### Seoul COB Series, Size 19x19mm.

SDW02F1C;	SDW82F1C;
SDW03F1C;	SDW83F1C;
SDW92F1C;	

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.

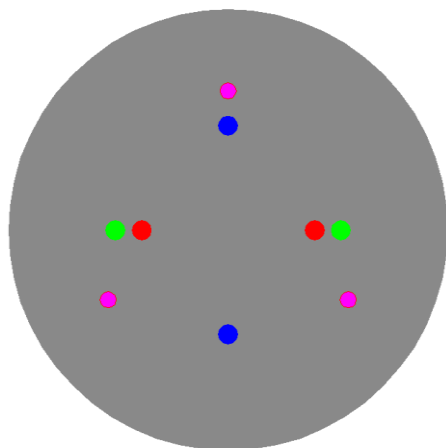
##### With the LEDiL products:

Olivia series: FN14637-S; FN14828-M;  
 Ronda series: FN15xxx-xx;

##### AC LED Modules, Size $\Phi$ 46mm.

SMJE-2D08W4PD;	SMJD-3D08W4PD;
SMJE-2D08W4PE;	SMJD-3D08W4PE;
SMJE-2D12W4PD;	SMJD-3D12W4PD;
SMJE-2D12W4PE;	SMJD-3D12W4PE;

Direct mounting with 3 screws M2x6.5mm.  
 Pink indicator marks.





*GooLED*

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**Mounting Options and Drawings & Dimensions**

Example:GooLED-SEO-6860-B-1,2

Example:GooLED-SEO-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

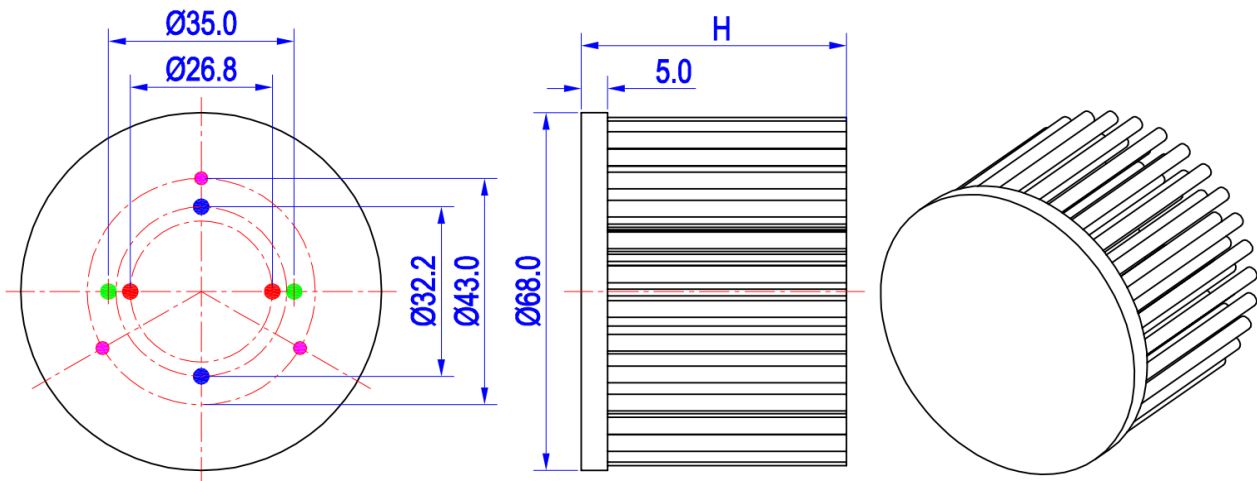
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means option 1 and 2 combined

**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 Size 19x19mm	/	FN14637-S; FN14828-M;	FN15xxx-xx;	M3	6.5mm	26.8mm/ 2-@180°
2	COB Size 28x28mm	/	/	/	M3	6.5mm	32.2mm/ 2-@180°
3		BJB Holder 47.319.2030.50		/	/	M3	6.5mm
	AAG.STUCCHI 8102-G2	/	/				
3	COB Size 19x19mm	BJB Holder 47.319.2021.50	FN14637-S; FN14828-M;	FN15xxx-xx;	M2	6.5mm	43.0mm/ 3-@120°
		AAG.STUCCHI 8101-G2	/	/			
4	AC Module	/	/	/	M2	6.5mm	43.0mm/ 3-@120°



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### GooLED-SEO-6860 Pin Fin Heat Sink Φ68mm for Seoul

#### The product data table

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

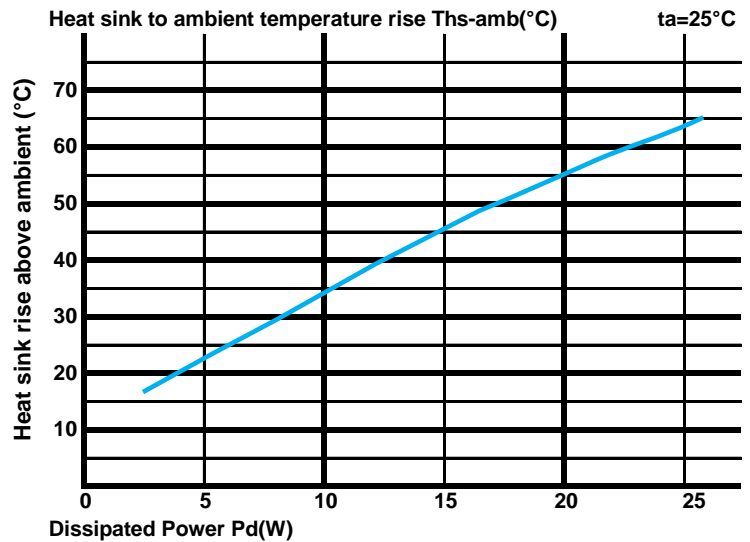
#### The thermal data table

\* 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;

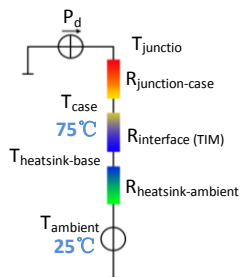
Dissipated Power Pd(W)	Pd = Pe x (1-ηL)	Heat sink to ambient thermal resistance R <sub>hs-amb</sub> (°C/W)	Heat sink to ambient temperature rise T <sub>hs-amb</sub> (°C)
		GooLED-SEO-6860	
5.0		4.60	23.0
10.0		3.40	34.0
15.0		3.00	45.0
20.0		2.75	55.0
25.0		1.84	46.0



\*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:  $\theta = (T_{hs} - T_a) / P_d$

$\theta$  - Thermal Resistance [°C/W]; T<sub>hs</sub> - Heatsink temperature; T<sub>a</sub> - 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<sub>junction-case</sub>, the thermal resistance of the TIM outside the package is R<sub>interface (TIM)</sub> [°C/W], the thermal resistance with the heat sink is R<sub>heatsink-ambient</sub> [°C/W], and the ambient temperature is T<sub>ambient</sub> [°C].

\*Thermal resistances outside the package R<sub>interface (TIM)</sub> and R<sub>heatsink-ambient</sub> can be integrated into the thermal resistance R<sub>case-ambient</sub> at this point. Thus, the following formula is also used:

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