



# LED

**xLED**

## xLED-SEO-4568 Pin Fin Heat Sink $\Phi$ 45mm for Seoul

### Features VS Benefits

- \* The xLED-SEO-4568 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 300 to 1,400 lumen.
- \* Thermal resistance range Rth 4.76°C/W.
- \* Modular design with mounting holes foreseen for direct mounting of Seoul COB series.
- \* Diameter 45.0mm - standard height 68.0mm, Other heights on request.
- \* Forged from highly conductive aluminum.

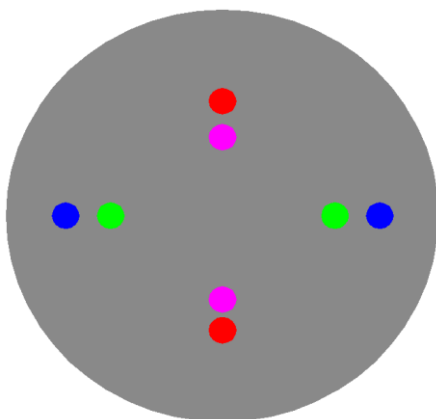


### Zhaga LED engine and radiator assembly is a unified future international standardization

- \* 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 SEMICONDUCTOR



### Seoul LED Modules directly Mounting Options

#### Seoul COB Series, Size 13.5x13.5mm.

SAW80661A;	SDW01F1C;
SAW90661A;	SDW81F1B;
SAW810xxx;	SDW81F1C;
SAW910xxx;	SDW81F1DY;

With the Zhaga Book 11 holders for the green indicator marks.  
 BJB holder: 47.319.6294.50; AAG.STUCCHI: 8100-G2  
 Without the holders for the pink indicator marks.  
 Direct mounting with machine screws M3x6.5mm.

With the LEDiL products:  
 Olivia series: FN14637-S  
 Ronda series: FN15972-xxx; FN15971-xxx; FN15969-xxx;

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

SDW02F1C;	SDW82F1C;
SDW03F1C;	SDW83F1C;
SDW92F1C;	

With the Zhaga Book 3 holders for the blue 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;



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## Mounting Options and Drawings & Dimensions

Example: xLED-SEO-4568-B-1,2

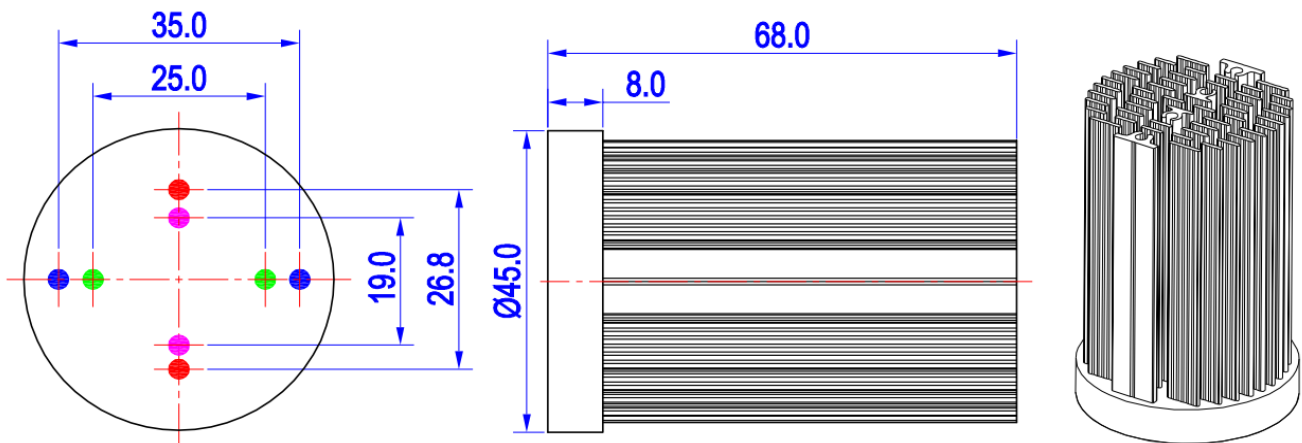
Example: xLED-SEO-45 **1** - **2** - **3**

- 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
			Olivia series	Ronda series			
1	COB Size 13.5x13.5mm	/	FN14637-S;	FN15972-xxx; FN15971-xxx; FN15969-xxx;	M3	6.5mm	19.0mm/ 2-@180°
2		BJB Holder 47.319.2021.50 AAG.STUCCHI 8101-G2			M3	6.5mm	25.0mm/ 2-@180° (Zhaga book 11)
3	COB Size 19x19mm	/	FN14637-S; FN14828-M;	FN15xxx-xx;	M3	6.5mm	26.8mm/ 2-@180°
4		BJB Holder 47.319.2021.50 AAG.STUCCHI 8101-G2			M3	6.5mm	35.0mm/ 2-@180° (Zhaga book 3)



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xLED-SEO-4568 Pin Fin Heat Sink  $\Phi 45\text{mm}$  for Seoul

The product data table

	Model No.	xLED-SEO-4568
	Heatsink Size	$\Phi 45 \times H 68\text{mm}$
	Heatsink Material	AL1070
	Finish	Black Anodized
	Weight (g)	90.0
	Dissipated power ( $T_{hs-amb, 50^\circ\text{C}}$ )	10.5 (W)
	Cooling surface area ( $\text{mm}^2$ )	49775
	Thermal Resistance ( $R_{hs-amb}$ )	4.76 ( $^\circ\text{C}/\text{W}$ )

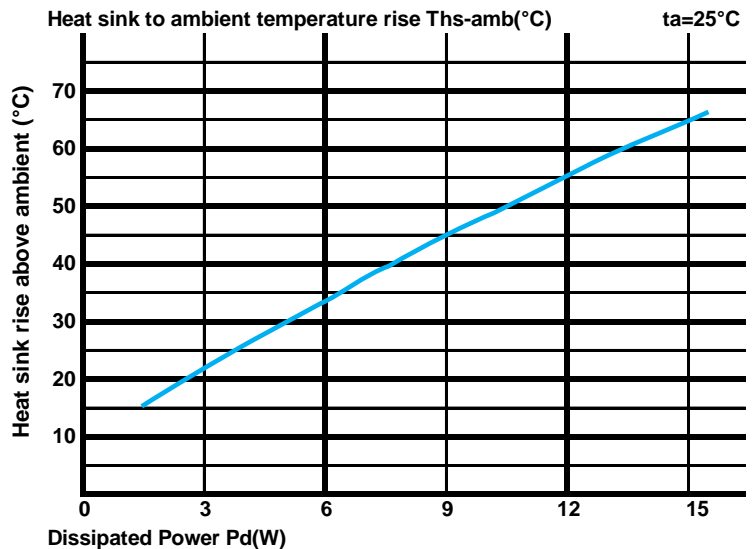
The thermal data table

\* Please be aware the dissipated power  $P_d$  is not the same as the electrical power  $P_e$  of a LED module.

\* To calculate the dissipated power please use the following formula:  $P_d = P_e \times (1 - \eta_L)$ .

$P_d$  - Dissipated power ;  $P_e$  - Electrical power ;  $\eta_L$  = Light efficiency of the LED module;

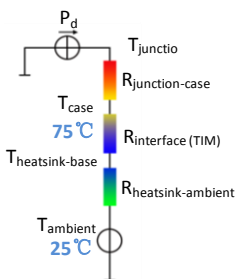
Dissipated Power $P_d$ (W)	$P_d = P_e \times (1 - \eta_L)$	Heat sink to ambient thermal resistance $R_{hs-amb}$ ( $^\circ\text{C}/\text{W}$ )	Heat sink to ambient temperature rise $T_{hs-amb}$ ( $^\circ\text{C}$ )
		xLED-SEO-4568	
3.0		7.00	21.0
6.0		5.50	33.0
9.0		5.00	45.0
12.0		4.58	55.0
15.0		4.27	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:  $\theta = (T_{hs} - T_a) / P_d$

$\theta$  - Thermal Resistance [ $^\circ\text{C}/\text{W}$ ];  $T_{hs}$  - 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  $R_{interface (TIM)}$  [ $^\circ\text{C}/\text{W}$ ], the thermal resistance with the heat sink is  $R_{thsink-ambient}$  [ $^\circ\text{C}/\text{W}$ ], and the ambient temperature is  $T_{ambient}$  [ $^\circ\text{C}$ ].

\*Thermal resistances outside the package  $R_{interface (TIM)}$  and  $R_{thsink-ambient}$  can be integrated into the thermal resistance  $R_{case-ambient}$  at this point. Thus, the following formula is also used:

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