# GooLED

## GooLED-SEO-4868 Pin Fin Heat Sink Φ48mm for Seoul

### Features VS Benefits

* The GooLED-SEO-4868 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 600 to 1,800 lumen.
* Thermal resistance range Rth 4.35°C/W.
* Modular design with mounting holes foreseen for direct mounting of Seoul COB series.
* Diameter 48.0mm - 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.
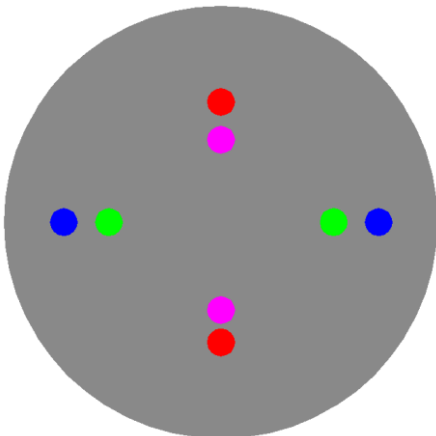
### Seoul LED Modules directly Mounting Options

**Seoul COB Series, Size 13.5×13.5mm.**

| | |
|---|---|
| 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 19×19mm.**

| | |
|---|---|
| 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:GooLED-SEO-4868-B-1,2**

**Example:GooLED-SEO-48** `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 13.5×13.5mm | / | FN14637-S; | FN15972-xxx; FN15971-xxx; FN15969-xxx; | M3 | 6.5mm | 19.0mm/ 2-@180° |
| 2 | | BJB Holder 47.319.2021.50 | | | M3 | 6.5mm | 25.0mm/ 2-@180° (Zhaga book 11) |
| | | AAG.STUCCHI 8101-G2 | | | | | |
| 3 | COB Size 19×19mm | / | FN14637-S; FN14828-M; | FN15xxx-xx; | M3 | 6.5mm | 26.8mm/ 2-@180° |
| 4 | | BJB Holder 47.319.2021.50 | | | M3 | 6.5mm | 35.0mm/ 2-@180° (Zhaga book 3) |
| | | AAG.STUCCHI 8101-G2 | | | | | |

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2
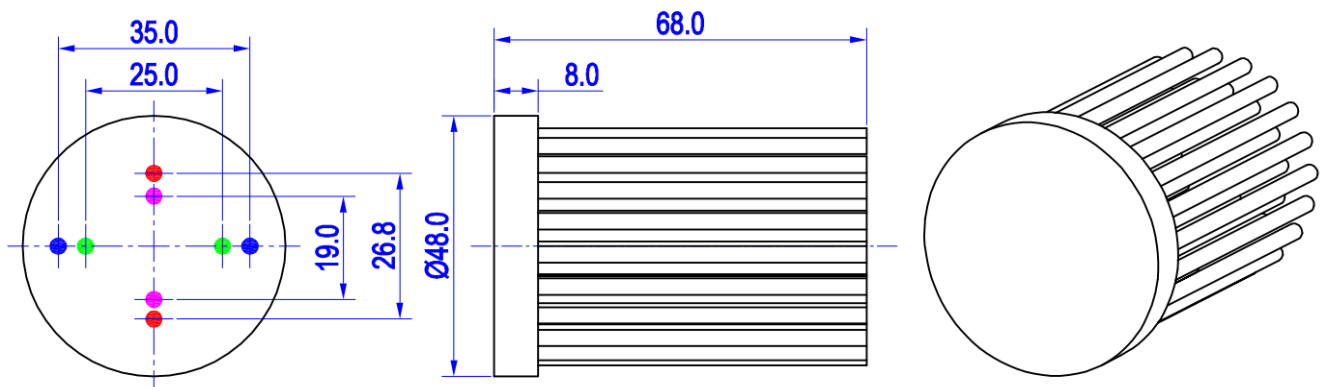
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## GooLED-SEO-4868 Pin Fin Heat Sink Φ48mm for Seoul

## The product deta table

| Model No. | GooLED-SEO-4868 |
|---|---|
| Heatsink Size | Φ48xH68mm |
| Heatsink Material | AL1070 |
| Finish | Black Anodized |
| Weight (g) | 93.0 |
| Dissipated power (Ths-amb,50℃) | 11.5 (W) |
| Cooling surface area (mm²) | 31383 |
| Thermal Resistance (Rhs-amb) | 4.35 (°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: $Pd = Pe \times (1-\eta L)$.

Pd - Dissipated power ; Pe - Electrical power ; $\eta L$ = Light effciency of the LED module;

| $Pd = Pe \times (1-\eta L)$ | | Heat sink to ambient thermal resistance Rhs-amb (°C/W) | Heat sink to ambient temperature rise Ths-amb (°C) |
|---|---|---|---|
| | | GooLED-SEO-4868 | |
| Dissipated Power Pd(W) | 3.0 | 6.00 | 18.0 |
| | 6.0 | 4.83 | 29.0 |
| | 9.0 | 4.56 | 41.0 |
| | 12.0 | 4.33 | 52.0 |
| | 15.0 | 4.13 | 62.0 |

**Heat sink to ambient temperature rise Ths-amb(°C)**       **ta=25°C**
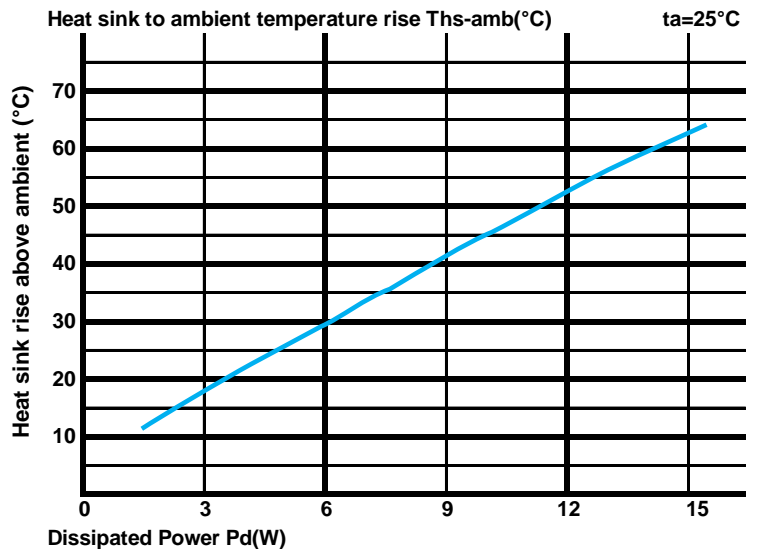


*The aluminum substrate side of the package outer shell is thermally connected to the heat sink via TIM (Thermal interface material).

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.
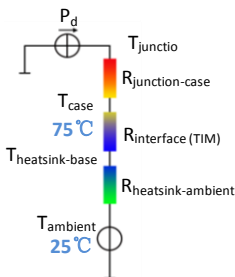
*Thermal resistance is a heat property and a measurement of a temperature difference by which an object or material resists a heat flow.

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:

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

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