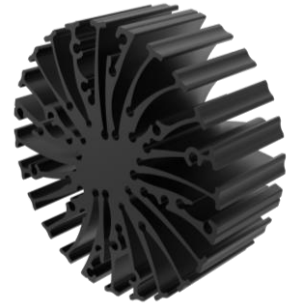


EtraLED

EtraLED-SEO-7020 Seoul Modular Passive Star LED Heat Sink Φ 70mm

Features VS Benefits

- * The EtraLED-SEO-7020 Seoul Passive Star 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 800 to 2,000 lumen.
- * Thermal resistance range R_{th} 3.70°C/W.
- * Modular design with mounting holes foreseen for direct mounting of Seoul COB series.
- * Diameter 70.0mm - standard height 20.0mm, 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 srar 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 srar LED heat sinks.



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.

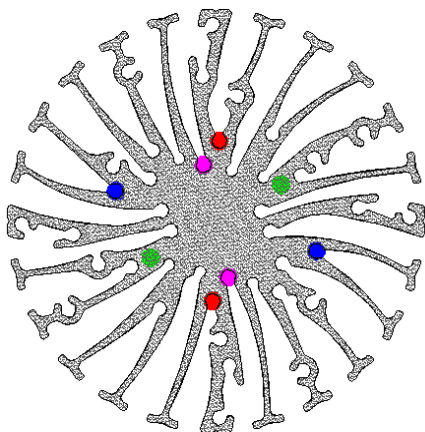
With the LEDiL products:
 Olivia series: FN14637-S
 Ronda series: FN15972-xxx; FN15971-xxx; FN15969-xxx;

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;



EtraLED

EtraLED-SEO-7020 Seoul Modular Passive Star LED Heat Sink Φ 70mm

Mounting Options and Drawings & Dimensions

Example: EtraLED-SEO-7020-B-1,2

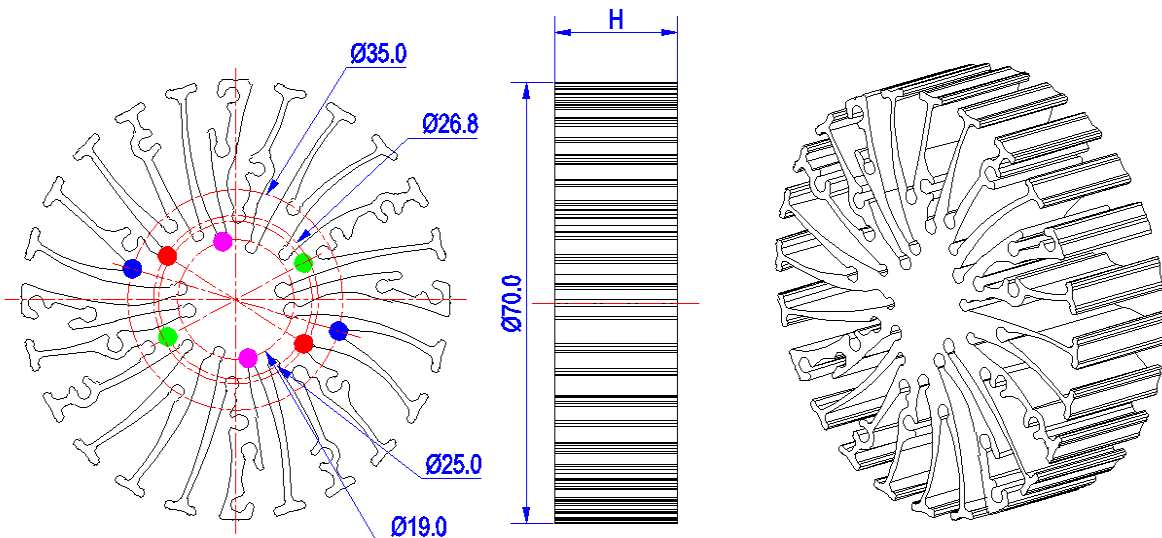
Example: EtraLED-SEO-70 **1** - **2** - **3**

- 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 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)



EtraLED

EtraLED-SEO-7020 Seoul Modular Passive Star LED Heat Sink Φ70mm

The product data table

	Model No.	EtraLED-SEO-7020
	Heatsink Size	Φ70xH20mm
	Heatsink Material	AL6063-T5
	Finish	Black Anodized
	Weight (g)	77.0
	Dissipated power (T_{hs-amb},50°C)	13.5 (W)
	Cooling surface area (mm²)	33350
	Thermal Resistance (R_{hs-amb})	3.7 (°C/W)

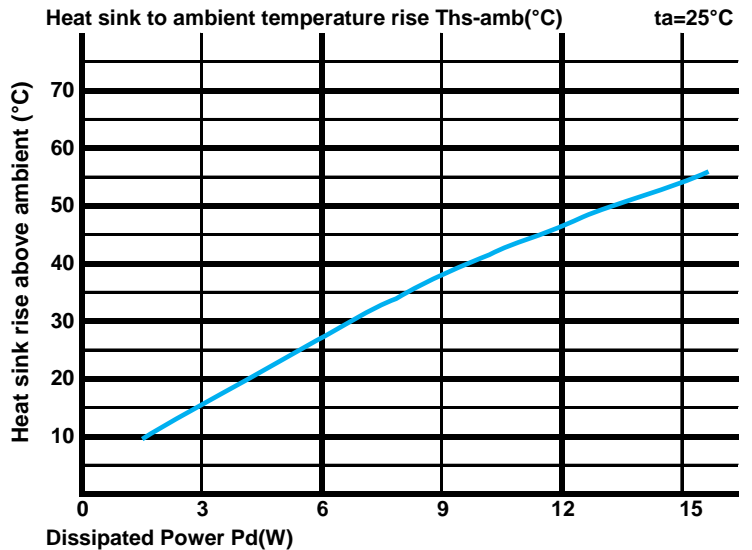
The thermal data table

* 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)
		EtraLED-SEO-7020	
3.0		5.00	15.0
6.0		4.50	27.0
9.0		4.22	38.0
12.0		3.83	46.0
15.0		3.60	54.0



*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:

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