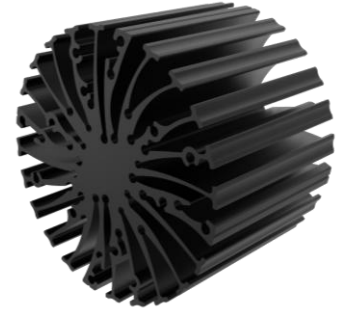


**EtraLED**

**EtraLED-SAM-7050 Samsung Modular Passive Star Heat Sink  $\Phi$ 70mm**

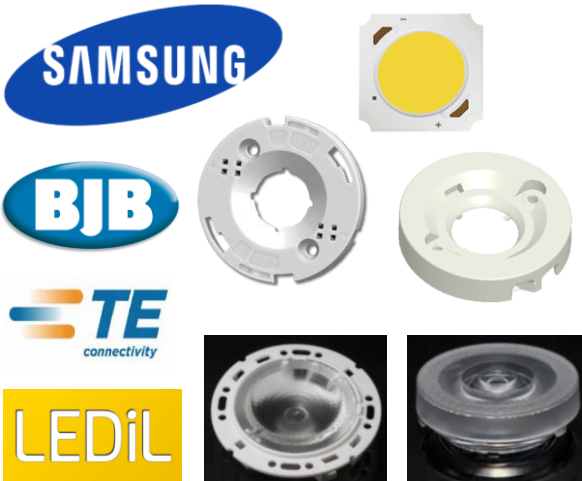
**Features VS Benefits**

- \* The EtraLED-SAM-7050 Samsung Modular Passive Star LED Heat Sinks are specifically designed for luminaires using the Samsung 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 1200 to 3,000 lumen.
- \* Thermal resistance range  $R_{th}$  2.50°C/W.
- \* Modular design with mounting holes foreseen for direct mounting of Samsung LED engines.
- \* Diameter 70.0mm - standard height 50.0mm, 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 Samsung COB's and LED modules which standard fit on the star 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 star LED heat sinks.



**Samsung LED Modules directly Mounting Options**

**Samsung B Series LED modules name:**

- L013B;
- L019B;

With the Zhaga Book 11 holders for the red indicator marks.  
 BJB Holder: 47.319.6234.50;  
 Without the holders for the red indicator marks.  
 Direct mounting with machine screws M3x6.5mm.

**Samsung D Series LED modules name:**

- LC003D; LC009D;
- LC006D; LC013D;

With the Zhaga Book 11 holders for the red indicator marks.  
 BJB Holder: 47.319.6294.50;  
 TE LED Holder: 2213678-5;  
 Direct mounting with machine screws M3x6.5mm.

**Samsung D Series LED modules name:**

- LC016D;
- LC019D;
- LC026D;

With the Zhaga Book 3 holders for the green indicator marks.  
 BJB Holder: 47.319.2021.50;  
 TE LED Holder: 2213254-1;  
 Direct mounting with machine screws M3x6.5mm.

With the LEDiL products:

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

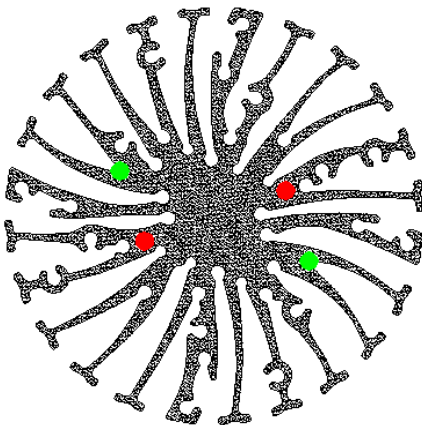
**Samsung C Series LED modules name:**

- LC010C;
- LC020C;

With the Zhaga Book 11 holders for the red indicator marks.  
 TE LED Holder: 2213118-2;  
 Direct mounting with machine screws M3x6.5mm.

With the LEDiL products:

- Ronda series: FN15xxx;





**EtraLED**

**EtraLED-SAM-7050 Samsung Modular Passive Star Heat Sink  $\Phi$ 70mm**

**Mounting Options and Drawings & Dimensions**

Example: EtraLED-SAM-7050-B-1,2

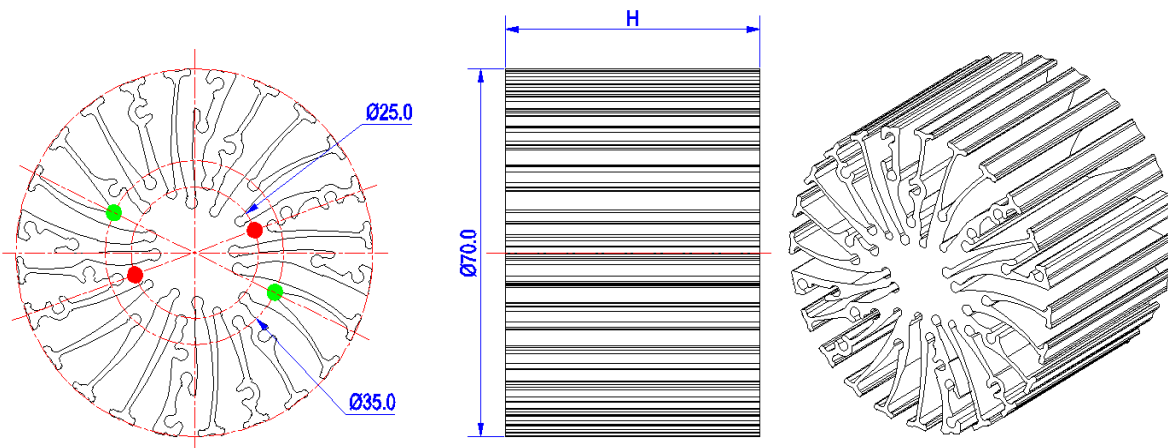
Example: EtraLED-SAM-70 **1** - **2** - **3**

- 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			
N	/	None	None	None	None	None	None
1	L010C; L020C;	TE Holder 2213118-2	/	FN15xxx;	M3	6.5mm	25.0mm/ 2-@180° (Zhaga book 11)
	L003D; L006D; L009D; L013D;	BJB Holder 47.319.6294.50 TE Holder 2213678-5	FN14828-M; FN14637-S;	/			
	L013B; L019B;	BJB Holder 47.319.6234.50	/	/			
2	L016D; L018D; L026D;	BJB Holder 47.319.2021.50 TE Holder 2213254-1	FN14828-M; FN14637-S;		M3	6.5mm	35.0mm/ 2-@180° (Zhaga book 3)



## EtraLED

### EtraLED-SAM-7050 Samsung Modular Passive Star Heat Sink $\Phi 70\text{mm}$

#### The product data table

	<b>Model No.</b>	EtraLED-SAM-7050
	<b>Heatsink Size</b>	$\Phi 70 \times H50\text{mm}$
	<b>Heatsink Material</b>	AL6063-T5
	<b>Finish</b>	Black Anodized
	<b>Weight (g)</b>	192.0
	<b>Dissipated power (T<sub>hs-amb</sub>, 50°C)</b>	20.0 (W)
	<b>Cooling surface area (mm<sup>2</sup>)</b>	79093
	<b>Thermal Resistance (R<sub>hs-amb</sub>)</b>	2.5 (°C/W)

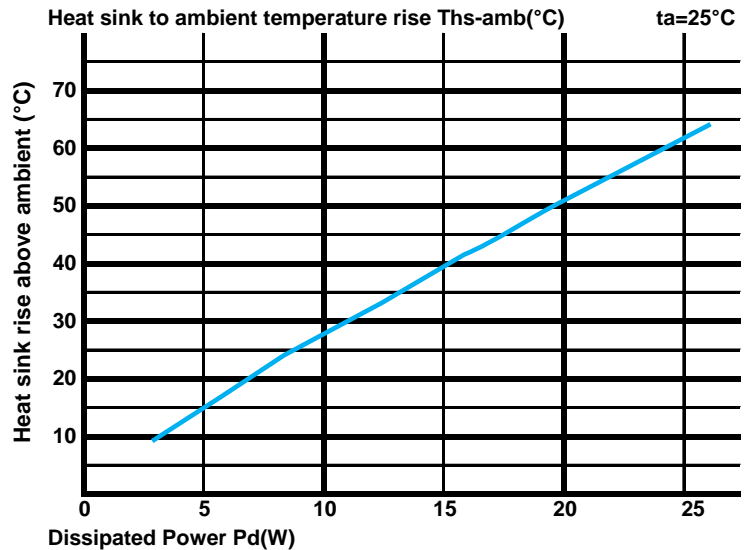
#### The thermal data table

\* 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:  $P_d = P_e \times (1 - \eta_L)$ .

Pd - Dissipated power ; Pe - Electrical power ;  $\eta_L$  = Light efficiency of the LED module;

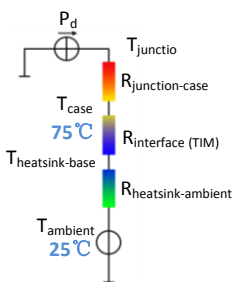
Dissipated Power Pd(W)	Pd = Pe x (1- $\eta_L$ )	Heat sink to ambient thermal resistance R <sub>hs-amb</sub> (°C/W)	Heat sink to ambient temperature rise Ths-amb (°C)
		EtraLED-SAM-7050	
5.0		3.00	15.0
10.0		2.70	27.0
15.0		2.60	39.0
20.0		2.50	50.0
25.0		2.44	61.0



\*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];  $T_{hs}$  - 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:

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