

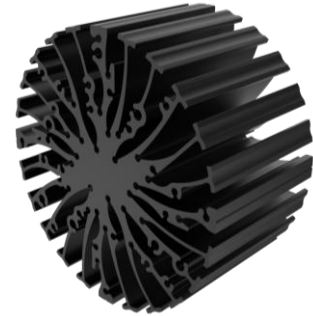


**EtraLED**

**EtraLED-CIT-9650 Citizen Modular Passive Star LED Heat Sink  $\Phi$ 96mm**

**Features VS Benefits**

- \* The EtraLED-CIT-9650 Citizen modular passive star LED heat sink are specifically designed for luminaires using the Citizen 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 2,000 to 5,100 lumen.
- \* Thermal resistance range  $R_{th}$  1.45°C/W.
- \* Modular design with mounting holes foreseen for direct mounting of citizen COB series.
- \* Diameter 96mm - standard height 50mm Other heights on request.
- \* Extruded from highly conductive aluminum.



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

- \* Below you find an overview of Citizen 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.



**Citizen LED Modules directly Mounting Options**

**Citizen COB version 4, version 5, version 6 Series:**

- CLU046-12xxxx; CLU048-12xxxx;
- CLU046-18xxxx; CLU048-18xxxx;

**Citizen High intensity COB Series:**

- CLU731-12xxxx;
- 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.

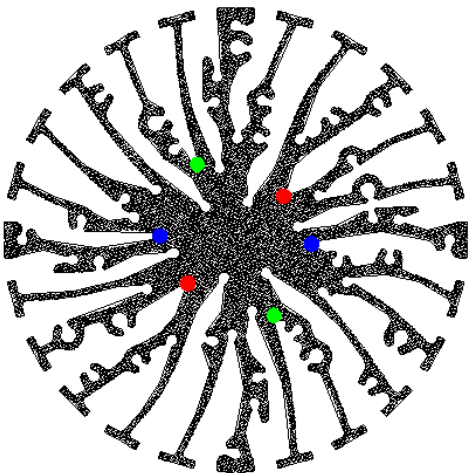
**Citizen LED Modules directly Mounting Options**

**Citizen COB version 4, version 5, version 6 Series:**

- CLU036-12xxxx;
- CLU038-12xxxx;

**Citizen High intensity COB Series:**

- CLU721-12xxxx;
- CLU711-12xxxx;
- 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.



# EtraLED

EtraLED-CIT-9650 Citizen Modular Passive Star LED Heat Sink  $\Phi$ 96mm

## Mounting Options and Drawings & Dimensions

Example: EtraLED-CIT-9650-B-1,2

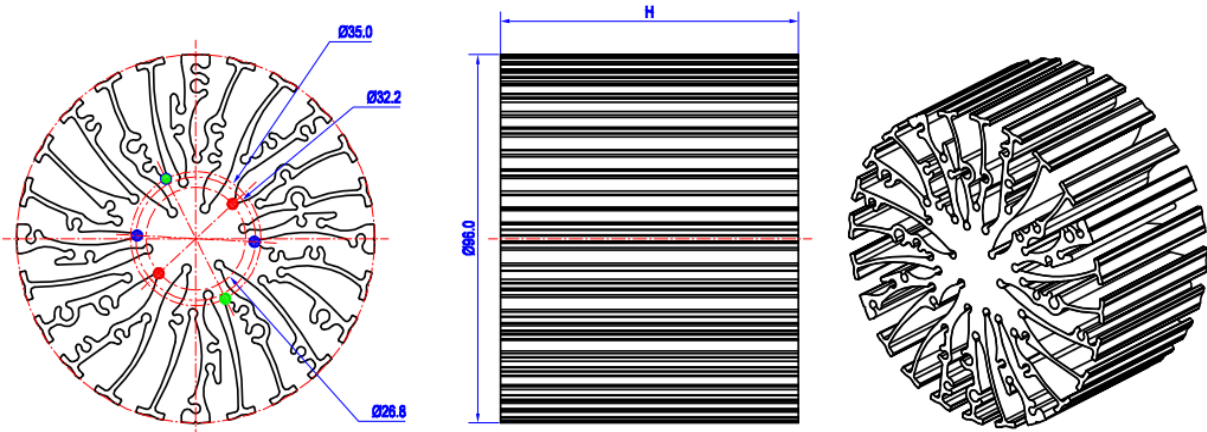
Example: EtraLED-CIT-96 **1** - **2** - **3**

- 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.	THREAD	THREAD DEPTH	THREAD HOLE DISTANCE
1	CLU036; CLU038 CLU721; CLU711	/	M3	6.5mm	26.8mm/ 2-@180°
2		/	M3	6.5mm	32.2mm/ 2-@180°
3	CLU046; CLU048 CLU731	BJB Holder 47.319.2030.50	M3	6.5mm	35.0mm/ 2-@180° (Zhaga book 3)
		AAG.STUCCHI 8102-G2			
	CLU036; CLU038 CLU721; CLU711	BJB Holder 47.319.2021.50			
		AAG.STUCCHI 8101-G2			



# EtraLED

## EtraLED-CIT-9650 Citizen Modular Passive Star LED Heat Sink Φ96mm

### The product data table

	Model No.	EtraLED-CIT-9650
	Heatsink Size	Φ96xH50mm
	Heatsink Material	AL6063-T5
	Finish	Black Anodized
	Weight (g)	458.0
	Dissipated power (Ths-amb,50°C)	34.5 (W)
	Cooling surface area (mm <sup>2</sup> )	114836
	Thermal Resistance (Rhs-amb)	1.45 (°C/W)

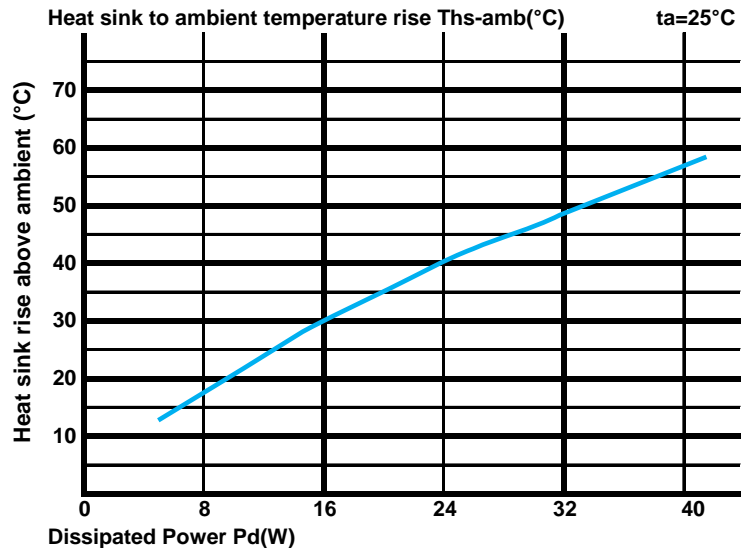
### The thermal data table

\* 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;

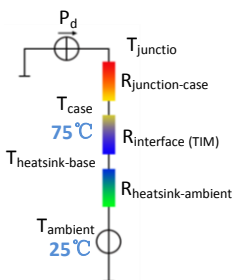
Dissipated Power Pd(W)	Pd = Pe x (1-ηL)	Heat sink to ambient thermal resistance Rhs-amb (°C/W)	Heat sink to ambient temperature rise Ths-amb (°C)
		EtraLED-CIT-9650	
8.0		2.25	18.0
16.0		1.88	30.0
24.0		1.67	40.0
32.0		1.50	48.0
40.0		1.40	56.0



\*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:  $\theta = (Ths - Ta) / Pd$

$\theta$  - 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:

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