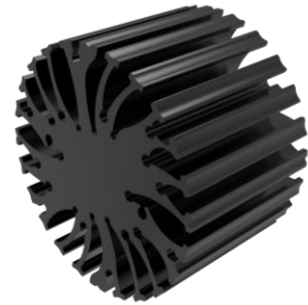


EtraLED

EtraLED-CIT-4850 Citizen Modular Passive Star LED Heat Sink Φ 48mm

Features VS Benefits

- * The EtraLED-CIT-4850 Citizen Modular Passive Star LED Heat Sinks 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 400 to 1,500 lumen.
- * Thermal resistance range R_{th} 5.00°C/W.
- * Modular design with mounting holes foreseen for direct mounting of citizen COB series.
- * Diameter 48.0mm - standard height 50.0mm. 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:

CLU026-12xxxx; CLU028-12xxxx;
CLU027-12xxxx;

Citizen High intensity COB Series:

CLU701-03xxxx; CLU701-10xxxx;

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: FN15xxx-xx;

Molly series: C15xxx;

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 blue indicator marks.

BJB holder: 47.319.2021.50; AAG.STUCCHI: 8101-G2

Without the holders for the red indicator marks.

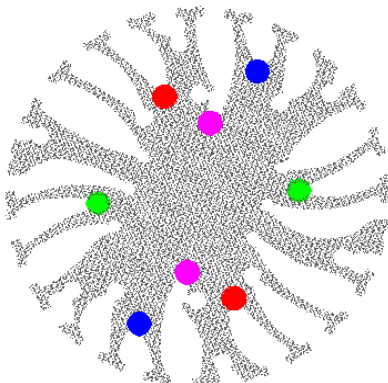
Direct mounting with machine screws M3x6.5mm.

With the LEDiL products:

Olivia series: FN14637-S

Ronda series: FN15xxx-xx;

Molly series: C15xxx;



EtraLED

EtraLED-CIT-4850 Citizen Modular Passive Star LED Heat Sink Φ 48mm

Mounting Options and Drawings & Dimensions

Example: EtraLED-CIT-4850-B-1,2

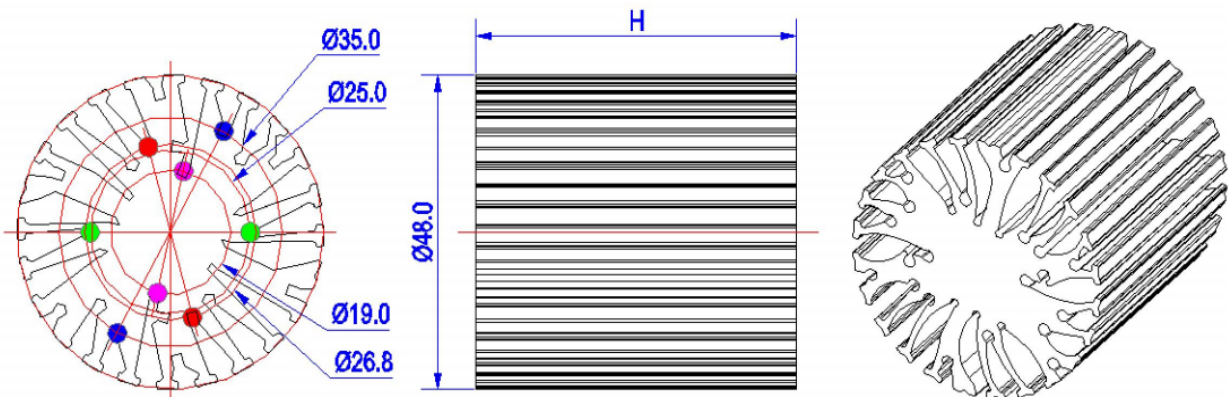
Example: EtraLED-CIT-48 **1** - **2** - **3**

- 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
			Molly Series	Olivia series	Ronda series			
1		/				M3	6.5mm	19.0mm/ 2-@180°
2	CLU026; CLU027 CLU028; CLU701	BJB Holder 47.319.6294.50 AAG.STUCCHI 8100-G2	C15xxx;	FN14637-S	FN15xxx-xx;	M3	6.5mm	25.0mm/ 2-@180° (Zhaga book 11)
3		/				M3	6.5mm	26.8mm/ 2-@180°
4	CLU036; CLU038 CLU721; CLU711	BJB Holder 47.319.2134.50 AAG.STUCCHI 8101-G2	C15xxx;	FN14637-S	FN15xxx-xx;	M3	6.5mm	35.0mm/ 2-@180° (Zhaga book 3)



EtraLED

EtraLED-CIT-4850 Citizen Modular Passive Star LED Heat Sink $\Phi 48\text{mm}$

The product data table

	Model No.	EtraLED-CIT-4850
	Heatsink Size	$\Phi 48 \times H50\text{mm}$
	Heatsink Material	AL6063-T5
	Finish	Black Anodized
	Weight (g)	134.0
	Dissipated power (T _{hs-amb} , 50°C)	10.0 (W)
	Cooling surface area (mm ²)	36868
	Thermal Resistance (R _{hs-amb})	5.0 (°C/W)

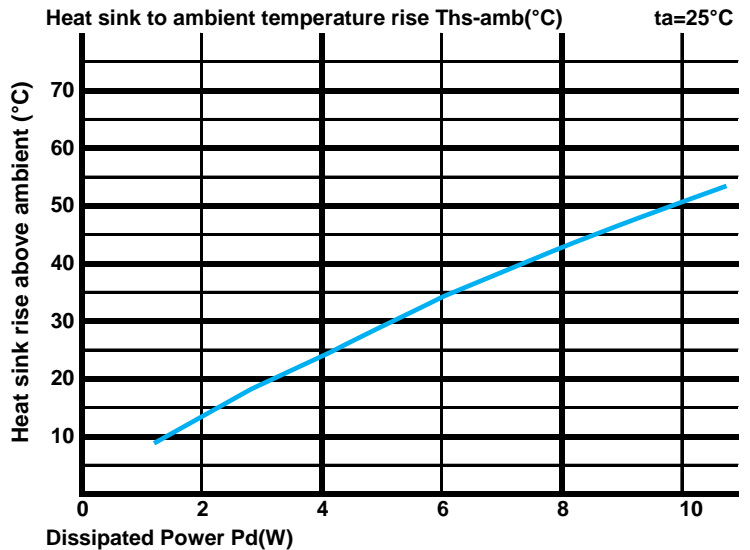
The thermal data table

* 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 ; η_L = Light efficiency of the LED module;

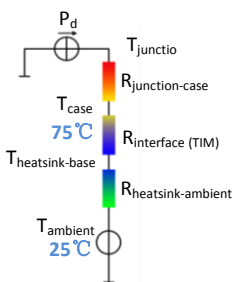
Dissipated Power Pd(W)	Pd = Pe x (1- η_L)	Heat sink to ambient thermal resistance R _{hs-amb} (°C/W)	Heat sink to ambient temperature rise T _{hs-amb} (°C)
		EtraLED-CIT-4850	
2.0		6.50	13.0
4.0		6.00	24.0
6.0		5.67	34.0
8.0		5.38	43.0
10.0		5.00	50.0



*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:

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