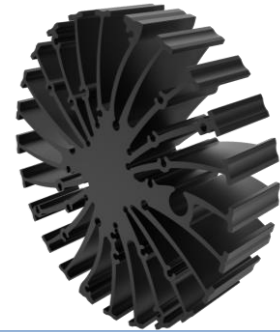


EtraLED

EtraLED-CIT-11020 Citizen Modular Passive Star LED Heat Sink Φ 110mm

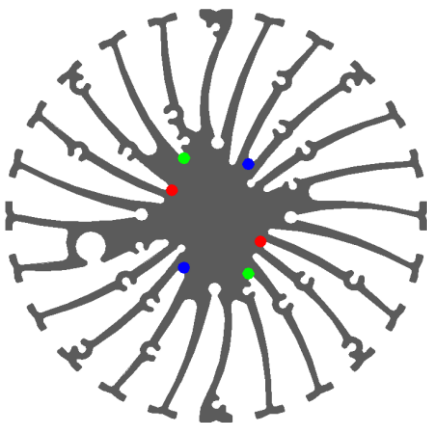
Features VS Benefits

- * The EtraLED-CIT-11020 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 1,600 to 4,200 lumen.
- * Thermal resistance range R_{th} 1.79°C/W.
- * Modular design with mounting holes foreseen for direct mounting of citizen COB series.
- * Diameter 110mm - standard height 20mm 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-11020 Citizen Modular Passive Star LED Heat Sink Φ 110mm

Mounting Options and Drawings & Dimensions

Example: EtraLED-CIT-11020-B-1,2

Example: EtraLED-CIT-110 **1** - **2** - **3**

1 Height (mm)

2 Anodising Color

B-Black

C-Clear

Z-Custom

3 Mounting Options - see graphics for details Combinations available

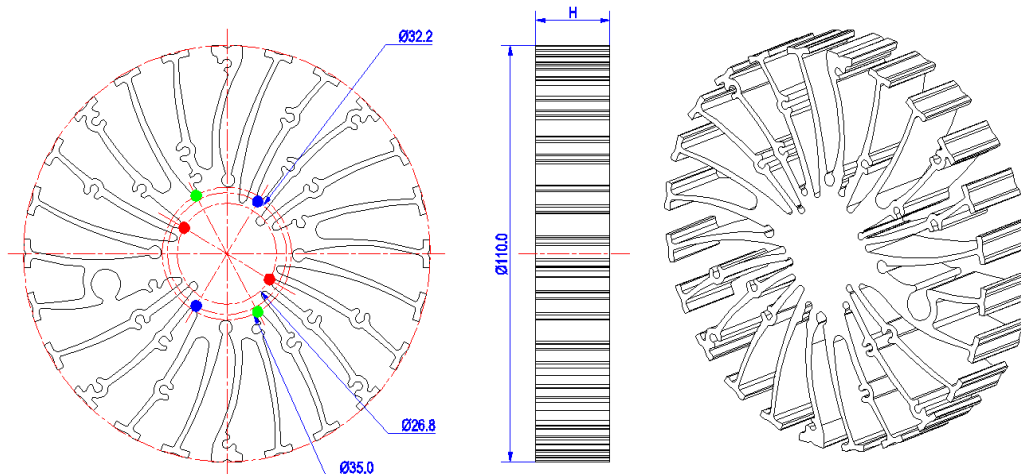
Ex.order code - 12

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-11020 Citizen Modular Passive Star LED Heat Sink Φ 110mm

The product data table

| | | |
|--|--|-------------------|
| | Model No. | EtraLED-CIT-11020 |
| | Heatsink Size | Φ 110xH20mm |
| | Heatsink Material | AL6063-T5 |
| | Finish | Black Anodized |
| | Weight (g) | 165.0 |
| | Dissipated power (T _{hs-amb} ,50°C) | 28.0 (W) |
| | Cooling surface area (mm ²) | 52211 |
| | Thermal Resistance (R _{hs-amb}) | 1.79 (°C/W) |

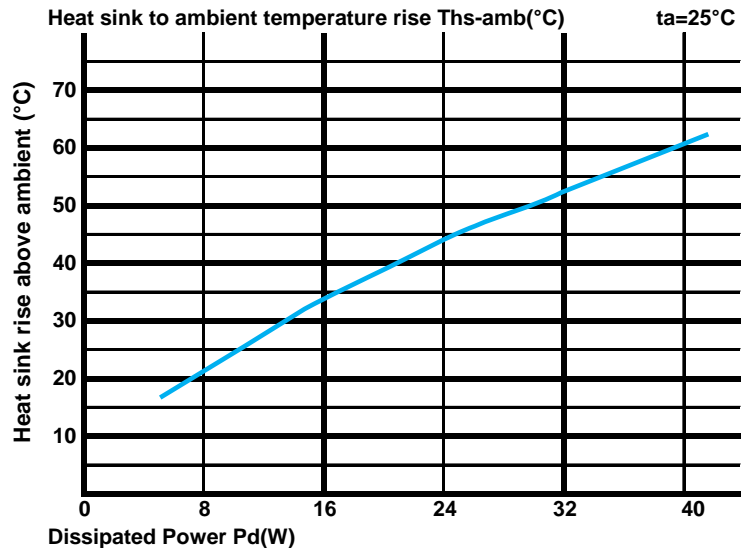
The thermal data table

* 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- η L).

Pd - Dissipated power ; Pe - Electrical power ; η L = Light efficiency of the LED module;

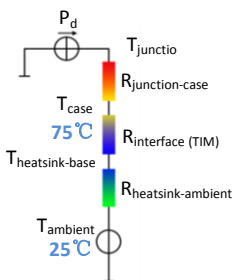
| Dissipated Power Pd(W) | Pd = Pe x (1- η L) | Heat sink to ambient thermal resistance R _{hs-amb} (°C/W) | Heat sink to ambient temperature rise T _{hs-amb} (°C) |
|------------------------|-------------------------|--|--|
| | EtraLED-CIT-11020 | | |
| 8.0 | | 2.50 | 20.0 |
| 16.0 | | 2.06 | 33.0 |
| 24.0 | | 1.83 | 44.0 |
| 32.0 | | 1.63 | 52.0 |
| 40.0 | | 1.50 | 60.0 |



*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_{unction-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:

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