

GooLED

GooLED-NIC-5830 Pin Fin Heat Sink Φ 58mm for Nichia

Features VS Benefits

- * The GooLED-NIC-5830 Nichia Pin Fin LED Heat Sinks are specifically designed for luminaires using the Nichia 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 500 to 1,600 lumen.
- * Thermal resistance range R_{th} 5.0°C/W.
- * Modular design with mounting holes foreseen for direct mounting of Nichia COB series.
- * Diameter 58.0mm - standard height 30.0mm, 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 Nichia COB's and LED modules which standard fit on the Pin Fin 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 LED Pin Fin LED Heat Sink.



Nichia LED Modules directly Mounting Options

Nichia COB LED modules name:

NFCWL036B;
NFCLL036B;
NFCWL060B;
NFCLL060B;

With the Zhaga Book 3 Holders:

Ideal Holder:50-2100NC;
TE LED Holder:2213382-2;

Direct mounting with machine screws M3x6.5mm, Green indicator marks.

With the LEDiL products:

Lena series: CN14xxx; C13xxx; C12xxx;
Ronda series: FN15xxx-xx;

Nichia COB LED modules name:

NVCWL024Z;
NVCLL024Z;
NVNWS007Z;
NJCWS024Z;

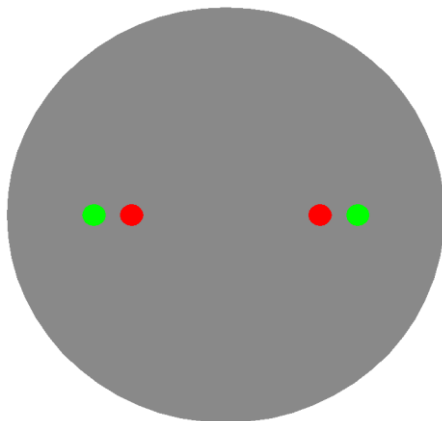
With the Zhaga Book 11 Holders:

BJB holder:47.319.6180.50;
TE LED Holder:2213118-1;

Direct mounting with machine screws M3x8mm, Red indicator marks.

With the LEDiL products:

Lena series: CN14xxx; C13xxx; C12xxx;
Ronda series: FN15xxx-xx;



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Mounting Options and Drawings & Dimensions

Example:GooLED-NIC-5830-B-1,2

Example:GooLED-NIC-58 **1** - **2** - **3**

1 Height (mm)

2 Anodising Color

B-Black

C-Clear

Z-Custom

3 Mounting Options - see graphics for details Combinations available

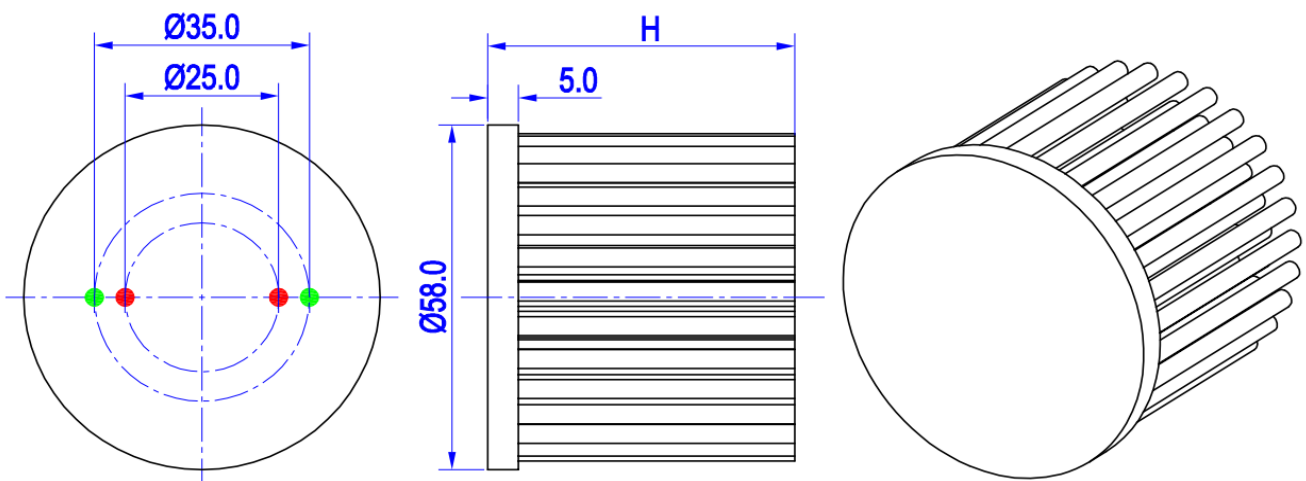
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means option 1 and 2 combined

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 |
|-----------------|--|------------------------------|--------------------------------|--------------|--------|--------------|------------------------------------|
| | | | Lena series | Ronda series | | | |
| N | / | None | None | None | None | None | None |
| 1 | NVCWL024Z; NVCLL024Z; NVNWS007Z; NJCWS024Z; | BJB Holder 47.319.6180.50 | CN14xxx; C13xxx; C12xxx; | FN15xxx-xx | M3 | 6.5mm | 25.0mm/ 2-@180° (Zhaga book 11) |
| | | TE Holder 2213118-1 | | | | | |
| 2 | NFCWL036B; NFCLL036B; NFCWL060B; NFCLL060B; | Ideal Holder 50-2100NC | | | | | |
| | | TE Holder 2213382-2 | | | | | |



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The product data table

| | | |
|--|---|-----------------|
| | Model No. | GooLED-NIC-5830 |
| | Heatsink Size | Φ 58xH30mm |
| | Heatsink Material | AL1070 |
| | Finish | Black Anodized |
| | Weight (g) | 79.0 |
| | Dissipated power (T_{hs-amb},50°C) | 10.0 (W) |
| | Cooling surface area (mm²) | 27134 |
| | Thermal Resistance (R_{hs-amb}) | 5.0 (°C/W) |

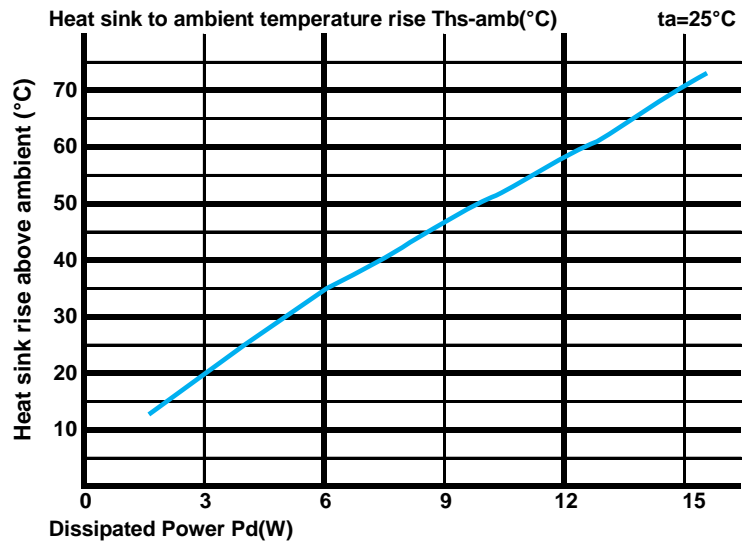
The thermal data table

* 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: Pd = Pe x (1-ηL).

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

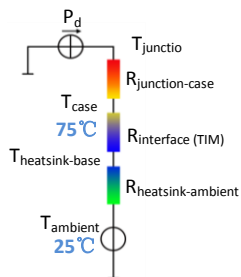
| Dissipated Power Pd(W) | Pd = Pe x (1-ηL) | Heat sink to ambient thermal resistance R _{hs-amb} (°C/W) | Heat sink to ambient temperature rise T _{hs-amb} (°C) |
|------------------------|------------------|--|--|
| | | GooLED-NIC-5830 | |
| 3.0 | | 6.67 | 20.0 |
| 6.0 | | 5.83 | 35.0 |
| 9.0 | | 5.11 | 46.0 |
| 12.0 | | 4.75 | 57.0 |
| 15.0 | | 4.67 | 70.0 |



*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:

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