

## GooLED

### GooLED-NIC-6850 Pin Fin Heat Sink $\Phi$ 68mm for Nichia

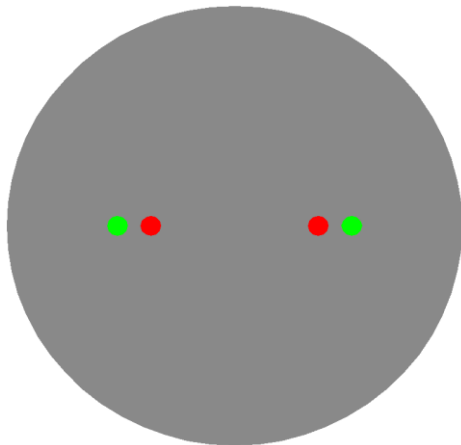
#### Features VS Benefits

- \* The GooLED-NIC-6850 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 900 to 2,600 lumen.
- \* Thermal resistance range  $R_{th}$  3.23°C/W.
- \* Modular design with mounting holes foreseen for direct mounting of Nichia COB series.
- \* Diameter 68.0mm - 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 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:

BIJ 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;

*GooLED*

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## Mounting Options and Drawings & Dimensions

Example:GooLED-NIC-6850-B-1,2

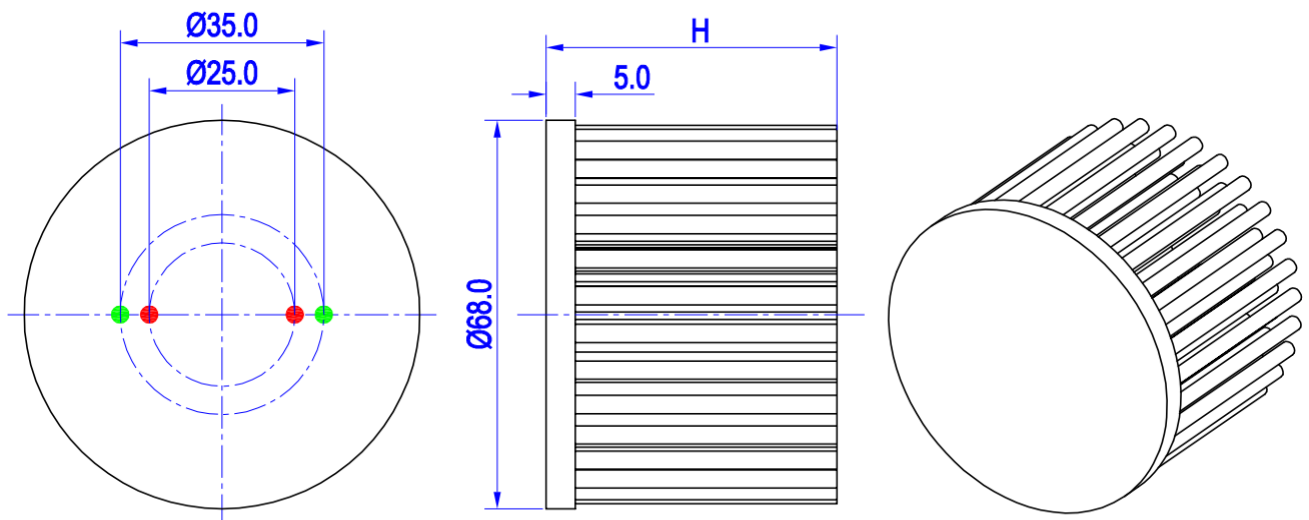
Example:GooLED-NIC-68 **1** - **2** - **3**

- 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
			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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### GooLED-NIC-6850 Pin Fin Heat Sink $\Phi$ 68mm for Nichia

#### The product data table

	<b>Model No.</b>	GooLED-NIC-6850
	<b>Heatsink Size</b>	$\Phi$ 68xH50mm
	<b>Heatsink Material</b>	AL1070
	<b>Finish</b>	Black Anodized
	<b>Weight (g)</b>	153.0
	<b>Dissipated power (T<sub>hs-amb</sub>,50°C)</b>	15.5 (W)
	<b>Cooling surface area (mm<sup>2</sup>)</b>	59562
	<b>Thermal Resistance (R<sub>hs-amb</sub>)</b>	3.23 (°C/W)

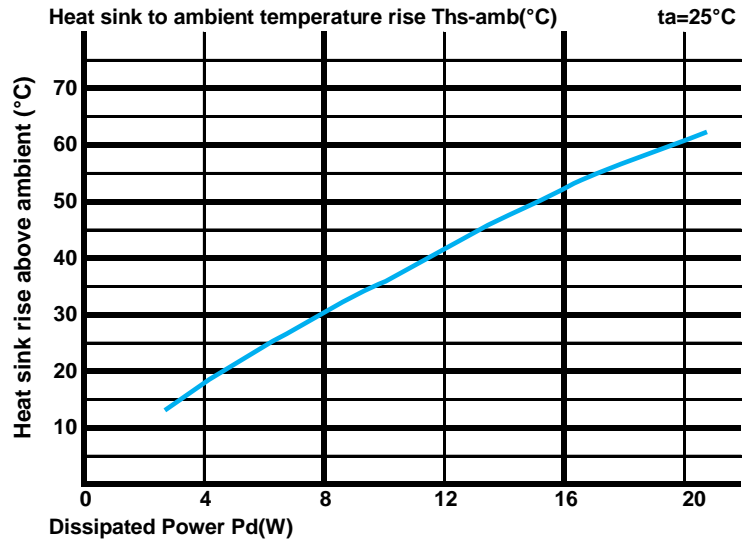
#### The thermal data table

\* 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 <sub>hs-amb</sub> (°C/W)	Heat sink to ambient temperature rise T <sub>hs-amb</sub> (°C)
		GooLED-NIC-6850	
4.0		4.25	17.0
8.0		3.75	30.0
12.0		3.42	41.0
16.0		3.25	52.0
20.0		3.00	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:  $\theta = (T_{hs} - T_a) / P_d$

$\theta$  - Thermal Resistance [°C/W]; T<sub>hs</sub> - Heatsink temperature; T<sub>a</sub> - 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<sub>junction-case</sub>, the thermal resistance of the TIM outside the package is R<sub>interface (TIM)</sub> [°C/W], the thermal resistance with the heat sink is R<sub>heatsink-ambient</sub> [°C/W], and the ambient temperature is T<sub>ambient</sub> [°C].

\*Thermal resistances outside the package R<sub>interface (TIM)</sub> and R<sub>heatsink-ambient</sub> can be integrated into the thermal resistance R<sub>case-ambient</sub> at this point. Thus, the following formula is also used:

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