GooLED

GooLED-NIC-11080 Pin Fin Heat Sink Φ110mm for Nichia

Features VS Benefits

* The GooLED-NIC-11080 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 2,500 to 7,000 lumen.
* Thermal resistance range Rth 1.14°C/W.
* Modular design with mounting holes foreseen for direct mounting of Nichia COB series.
* Diameter 110mm - standard height 80mm, 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:

NFCWJ108B;
NFCLJ108B;
NFDWJ130B;
NFDLJ130B;

With the Zhaga Book 3 Holders:
TE LED Holder:2213580-2;
Ideal Holder:50-2103NC;
Direct mounting with machine screws M3x6.5mm, green indicator marks.

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, Blue indicator marks.
With the LEDiL products:
Stella Series: FN13xxx-xx;   FN14xxx-xx;
Stella Series mounting hole for the pink indicator marks
Lena series: CN14xxx;   C13xxx;   C12xxx;
Ronda series: FN15xxx-xx;

1
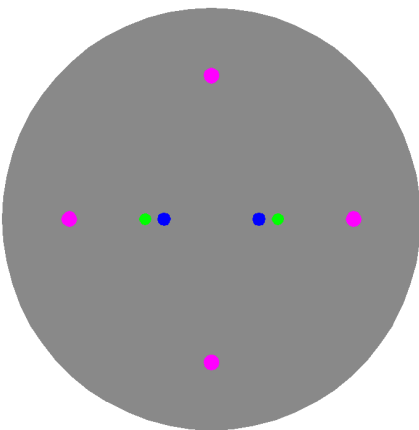
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## Mounting Options and Drawings & Dimensions

Example:GooLED-NIC-11080-B-1,2

Example:GooLED-NIC-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.	LEDiL products			THREAD	THREAD DEPTH	THREAD HOLE DISTANCE
			Stella Series	Lena series	Ronda series			
N	/	None	None	None	None	None	None	None
1	NVCWL024Z; NVCLL024Z; NVNWS007Z; NJCWS024Z;	BJB Holder 47.319.6180.50 / TE Holder 2213118-1	FN13xxx-xx; FN14xxx-xx;			M3	6.5mm	25.0mm/ 2-@180° (Zhaga book 11)
2	NFCWL036B; NFCLL036B; NFCWL060B; NFCLL060B;	Ideal Holder 50-2100NC / TE Holder 2213382-2	/	CN14xxx; C13xxx; C12xxx;	FN15xxx-xx	M3	6.5mm	35.0mm/ 2-@180° (Zhaga book 3)
	NFCWJ108B; NFCLJ108B; NFDWJ130B; NFDLJ130B;	Ideal Holder 50-2103NC / TE Holder 2213358-2						
3	LEDiL Lens	/	Stella Series	/	/	M4	8.5mm	75.0mm/ 4-@90°
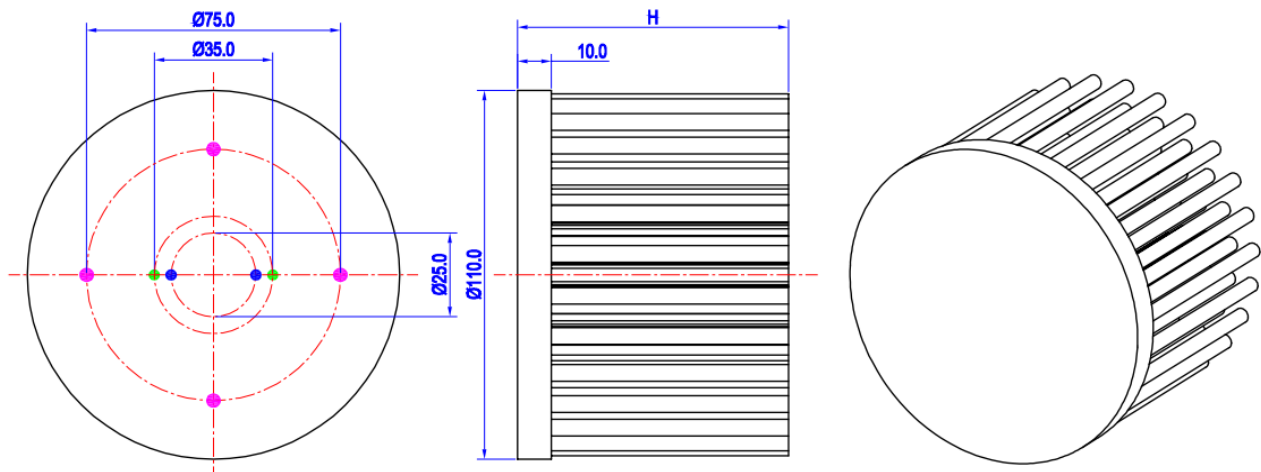
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The product deta table

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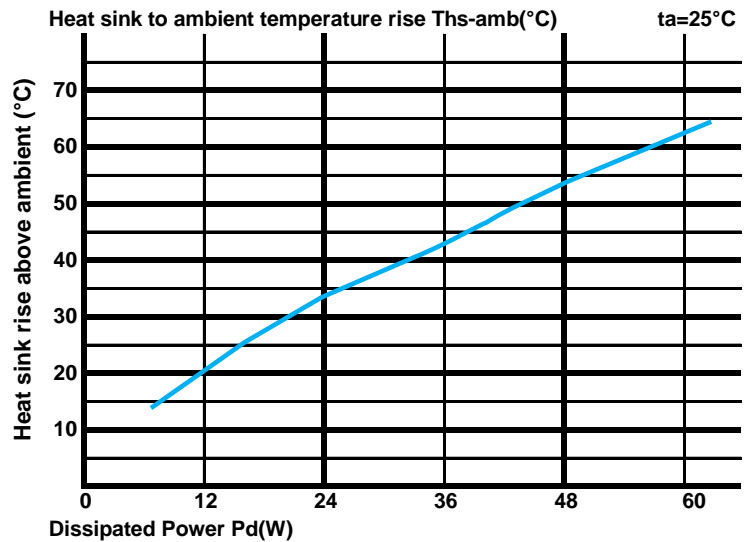| Model No.	GooLED-NIC-11080
Heatsink Size	Φ110xH80mm
Heatsink Material	AL1070
Finish	Black Anodized
Weight (g)	617.0
Dissipated power (Ths-amb,50℃)	44.0 (W)
Cooling surface area (mm²)	129119
Thermal Resistance (Rhs-amb)	1.14 (°C/W)

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).

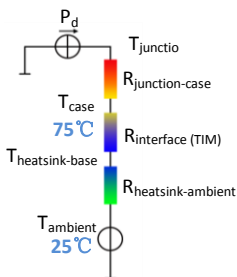Pd - Dissipated power ; Pe - Electrical power ; ηL = Light effciency of the LED module;

Pd = Pe x (1-ηL)		Heat sink to ambient thermal resistance Rhs-amb (°C/W)	Heat sink to ambient temperature rise Ths-amb (°C)
		GooLED-NIC-11080	
Dissipated Power Pd(W)	12.0	1.67	20.0
	24.0	1.38	33.0
	36.0	1.17	42.0
	48.0	1.10	53.0
	60.0	1.03	62.0

Heat sink to ambient temperature rise Ths-amb(°C)   ta=25°C

Heat sink rise above ambient (°C) vs Dissipated Power Pd(W)

*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.

P_d
$T_{junctio}$
$R_{junction-case}$
T_{case}
75℃
$R_{interface (TIM)}$
$T_{heatsink-base}$
$R_{heatsink-ambient}$
$T_{ambient}$
25℃

*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: $\theta = (Ths-Ta)/Pd$
θ - 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:
$T_{junction} = (R_{junction-case} + R_{case-ambient}) \cdot Pd + T_{ambient}$

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