EtraLED

EtraLED-LG-8580 LG Innotek Modular Passive Star Heat Sink Φ85mm

Features VS Benefits

* The EtraLED-LG-8580 LG Innotek Modular Passive Star LED Heat Sinks are specifically designed
  luminaires using the LG Innotek 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 2000 to 5,100 lumen.
* Thermal resistance range Rth 1.47°C/W.
* Modular design with mounting holes foreseen for direct mounting of LG Innotek COB series.
* Diameter 85.0mm - standard height 80.0mm 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 LG Innotek 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.

LG Innotek LED Modules directly Mounting Options
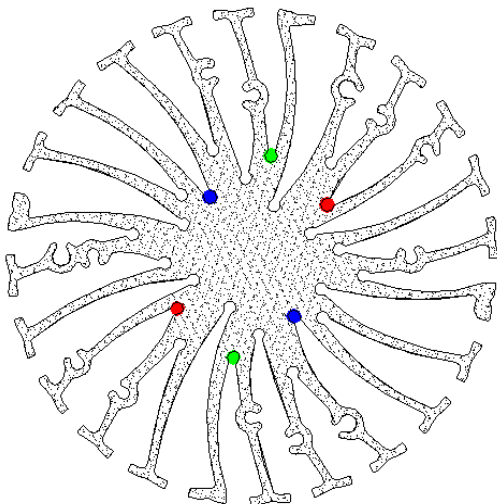
LG Innotek 7W&10W COB series.

    LEMWM19480xxxxxx;
    LEMWM19490xxxxxx;
    LEMWM19680xxxxxx;
    LEMWM19690xxxxxx;

With the Zhaga Book 3 holders for the green indicator marks.
TE Connectivity Holder: 2213382-1;
Without the holders for the blue indicator marks.
Direct mounting with machine screws M3x6.5mm.

LG Innotek 16W&21W COB series.

    LEMWM24780xxxxxx;
    LEMWM24790xxxxxx;
    LEMWM24980xxxxxx;
    LEMWM24990xxxxxx;

With the Zhaga Book 3 holders for the green indicator marks.
TE Connectivity Holder: 2213130-1;
BJB Holder:47.319.2011.50;
Without the holders for the red indicator marks.
Direct mounting with machine screws M3x6.5mm.

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Mounting Options and Drawings & Dimensions
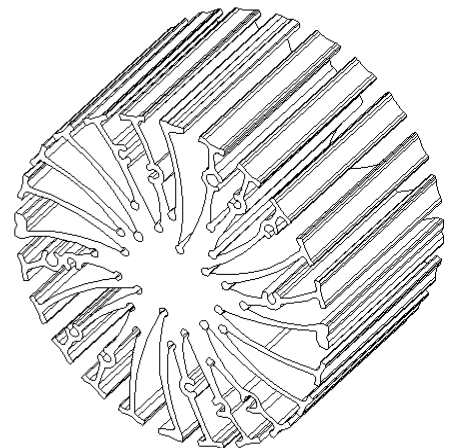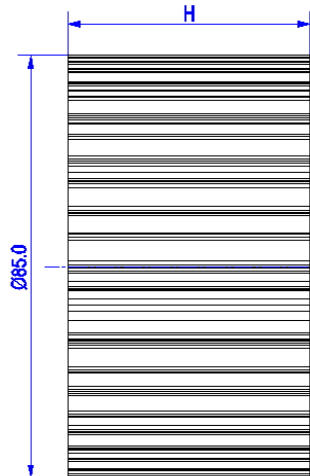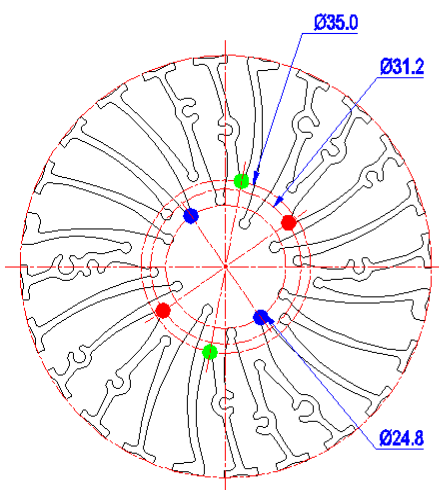
Example:EtraLED-LG-8580-B-1,2

Example:EtraLED-LG-85 `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	7W&10W COB	/	M3	6.5mm	24.8mm/ 2-@180°
2		/	M3	6.5mm	31.2mm/ 2-@180°
3	16W&21W COB	BJB Holder 47.319.2011.50	M3	6.5mm	35.0mm/ 2-@180° (Zhaga Book 3)
		TE Holder 2213130-1			
	7W&10W COB	TE Holder 2213382-1			

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The product deta table

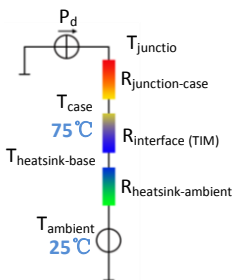| EtraLED	Model No.	EtraLED-LG-8580
	Heatsink Size	Φ85xH80mm
	Heatsink Material	AL6063-T5
	Finish	Black Anodized
	Weight (g)	458.0
	Dissipated power (Ths-amb,50℃)	34.0 (W)
	Cooling surface area (mm²)	148458
	Thermal Resistance (Rhs-amb)	1.47 (°C/W)

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)
		EtraLED-LG-8580	
Dissipated Power Pd(W)	8.0	2.25	18.0
	16.0	1.88	30.0
	24.0	1.67	40.0
	32.0	1.50	48.0
	40.0	1.40	56.0

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

Heat sink rise above ambient (°C) vs Dissipated Power Pd(W)
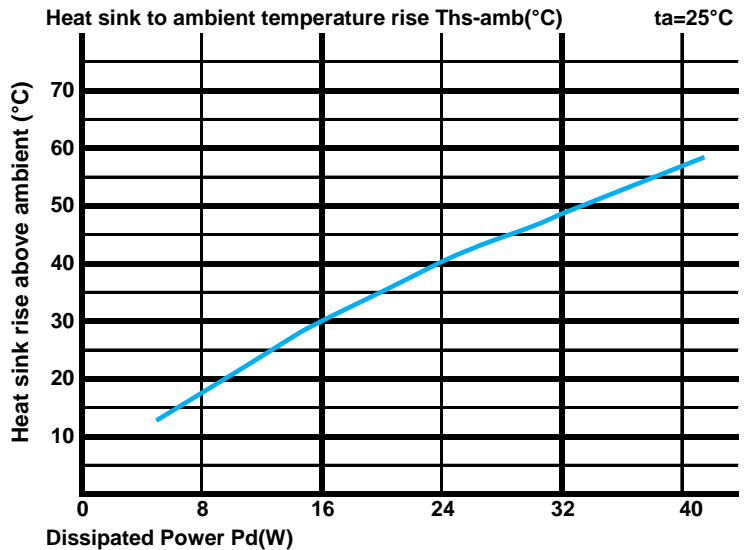
*The aluminum substrate side of the package outer shell is thermally connected to the heat sink via TIM (Thermal interface material).

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: $θ = (Ths-Ta)/Pd$

　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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