



xLED

xLED-4530 Pin Fin Heat Sink Φ 45mm

Features VS Benefits

- * Mechanical compatibility with direct mounting of the LED modules to the LED cooler and thermal performance matching the lumen packages.
- * For spotlight and downlight designs from 300 to 1,200 lumen.
- * Thermal resistance range Rth 7.14°C/W.
- * Modular design with mounting holes foreseen for direct mounting of a wide range of LED modules and COB's:
- * Diameter 45.0mm - Standard height 30.0mm , Other heights on request.
- * Forged from highly conductive aluminum.
- * 2 standard colors - clear anodised - black anodised.
- * Zhaga Book 3 Spot Light modules: Bridgelux ,Cree ,Citizen ,Edison ,GE lighting, LG Innotek ,Lumileds ,Lumens ,Luminus ,Nichia ,Osram ,Philips ,Prolight Opto, Samsung ,Seoul ,Tridonic ,Vossloh-Schwabe ,Xicato.



- 01) Bridelux: Vero 10/13 Vero SE 10/13 LED engines;
- 02) Cree: XLamp CXA 13xx, XLamp CXB 15xx, CXA 18xx LED engines;
- 03) Citizen: CLU026, CLU028, CLU036, CLU038, CLU721, CLU711, CLU701 LED engines;
- 04) Edison: EdiLex III COB LED engines;
- 05) GE lighting: Infusion™ LED engines;
- 06) LG Innotek: 7W, 10W, 16W, W21 LED engines;
- 07) Lumileds: LUXEON 1202, LUXEON 1203 LED engines;
- 08) Lumens: Ergon-COB-15xx, 18xx LED engines;
- 09) Luminus: CXM-6-AC, CIM/CLM/CXM-9 -A LED engines;
- 10) Nichia: NVxxx024Z, NVxxx036Z LED engines;
- 11) Osram: SOLERIQ® S 9/S13, Z6 Mini LED engines;
- 12) Philips: Fortimo SLM LED engines;
- 16) Prolight Opto: PACJ-7xxx-xxxx, PACJ-14xxx-xxxx, PACJ-21xxx LED engines;
- 13) Samsung: L010C, L020C, L003D, L006D, L009D, L013D LED engines;
- 14) Seoul Semiconductor: Acrich MJT COBs, DC COB LED engines;
- 15) Tridonic: SLE G6 10mm, SLE G6 15mm LED engines;
- 17) Vossloh-Schwabe: LUGA Shop and LUGA C LED engines;
- 18) Xicato: XTM LED engines;



Order Information

Example: xLED-4530-B

Example: xLED-4530-

- Anodising Color
- B-Black
- C-Clear
- Z-Custom

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.

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xLED-4530 Pin Fin Heat Sink $\Phi 45\text{mm}$

The product data table

	Model No.	xLED-4530
	Heatsink Size	$\Phi 45 \times H30\text{mm}$
	Heatsink Material	AL1070
	Finish	Black Anodized
	Weight (g)	45.0
	Dissipated power (T _{hs-amb} ,50°C)	7.0 (W)
	Cooling surface area (mm ²)	22830
	Thermal Resistance (R _{hs-amb})	7.14 (°C/W)

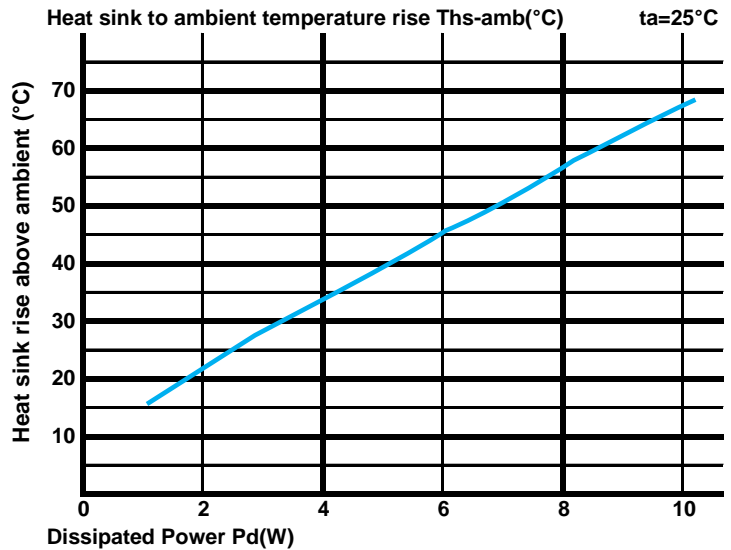
The thermal data table

* 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 efficiency of the LED module;

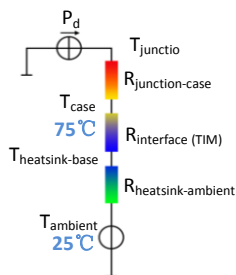
Dissipated Power Pd(W)	Pd = Pe x (1-ηL)	Heat sink to ambient thermal resistance R _{hs-amb} (°C/W)	Heat sink to ambient temperature rise T _{hs-amb} (°C)
		xLED-4530	
2.0		10.50	21.0
4.0		8.50	34.0
6.0		7.50	45.0
8.0		7.00	56.0
10.0		6.70	67.0



*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 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

*The thermal resistance between the junction section of the light-emitting diode and the aluminum substrate side of the shell is R_{junction-case}, the thermal resistance of the TIM outside the package is R_{interface (TIM)} [°C/W], the thermal resistance with 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:

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