xLED xLED-80 Series Pin Fin Sinks Φ80mm for COB Modular Product Brief

Features VS Benefits

* Mechanical compatibility with direct mounting of the LED modules to the LED cooler and thermal performance matching the lumen packages.
* Thermal resistance range Rth(3.13°C/W; 2.38°C/W; 2.08°C/W).
* Modular design with mounting holes foreseen for direct mounting of a wide range of LED modules and COB's:
* Diameter 80mm - Standard height 30.0mm / 50.0mm / 80.0mm , Other heights on request.
* Forged from highly conductive aluminum.

2 standard colors - clear anodised - black anodised

Zhaga Book 3 Spot Light Modules Edison ,Xicato ,Bridgelux , Osram ,Citizen ,Lumileds ,Cree , Tridonic , Vossloh-Schwabe ,Seoul ,LG ,Lustrous ,Prolight ,Samung ,SHARP , Luminus .Philips

1) Xicato XSM, XIM,XTM;(XSA-307,XSA-308)
2) Bridgelux ES Rectangle Array Series Vero 13 and Vero18 COB engines.
3) Citizen CLL024-CLU028, CLL034-CLU038;
4) Cree XLamp CXA13xx, CXA15xx,CSA18xx;
5) Lumileds Luxeon COB's 1203, 1204, 1205, Luxeon K arrays K12, K16;
6) Osram Soleriq S13, S19, E30
7) Seoul Semiconductor ZC6, ZC12, ZC18,ZC25;
8) Tridonic TALEXXmodule SLE nodules engines.
9) LG Innotek LEMWM18 10W, 13W, 17W
10) Edison EdiLex SLM and EdiLex II COB LED engines.
11) Lustrous LUSTRON 6 series LL604F, LL608D, LL613F, LL620F
12) Prolight Opto PABS, PABA, PACB, PANA
13) Samung LC013,LC019,LC026 COB LED engines.
14) SHARP Mini Zenigata,Tiger Zenigataand and Mega Zenigata LED engines.
15) Philips Fortimo SLM LED engines.
16) Vossloh-Schwabe LUGA Shop LED engines.
17) Luminus C##9,C##14 LED engines.

Order Information

Example:xLED-8030-B-#

Example:xLED-80 1 - 2 - 3

1 Hight (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

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.

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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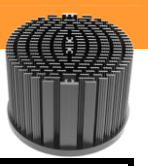

The product deta table

Brand	Mingfa Tech		
Series Name	xLED star heat sinks		
Seriest Number	xLED-80		
Manufacturing Technology	Cold Forged		
Material	AL 1070		
Color & Finishing	Black Anodized		
Certification	CE, ROHS, WEEE		
Diameter(mm)	Φ80		
Height(mm)	30.0mm	50.0mm	80.0mm
Item Number	xLED-8030	xLED-8050	xLED-8080
Max. Lumen	2300 lm	2900 lm	3400 lm
Dissipated Power (Ths-amb,50°C)	16.0 W	21.0 W	24 W
Thermal Resistance Rth（°C/W)	3.13 °C/W	2.38 °C/W	2.08 °C/W
Cooling Surface Area (mm²)	72123.0 mm²	120774.0 mm²	187104.0 mm²
Net Weight (g)	140.0 g	197.0g	315.30 g
Quantity (pcs/CTN)	90 pcs	54 pcs	36 pcs
Modular Types	COB	COB	COB
For Environments	Indoor area		
For Lightings	Down lights,Architectural lights		
For Application	Retail & Hospitality,Mall & Food,Architectural & Museums,Office & Education, Station & Airport,Healthcare		
For LED brands	Adura,Bridgelux,BJB,Citizen,Cree,Edison,GE,LG,Lumileds,Lumens,Luminus,Ledil,Nichia, Osram,Philips,Prolight Opto,Samsung,Seoul,Sharp,Tridonic,Vossloh Schwabe,Xicato,Zhaga		

* 3D files are avaliable in ParaSolid, STP and IGS on request

* The thermal resistance Rth is determined with a calibrated heat source of 14mm×14mm central placed on the heat sink, Tamb 40° and an open environment. Reference data @ heat sink to ambient temperature rise Ths-amb 50°C
The thermal resistance of a LED cooler is not a fix value and will vary with the applied dissipated power Pd

* Dissipated power Pd. Reference data @ heat sink to ambient temperature rise Ths-amb 50°C
The maximal dissipated power needs to be verified in function of required case temperature Tc or junction temperature Tj and related to the estimated ambient temperature where the light fixture will be placed
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

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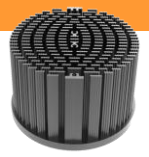
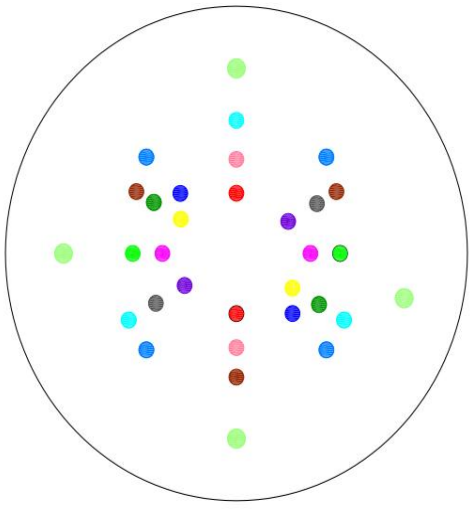
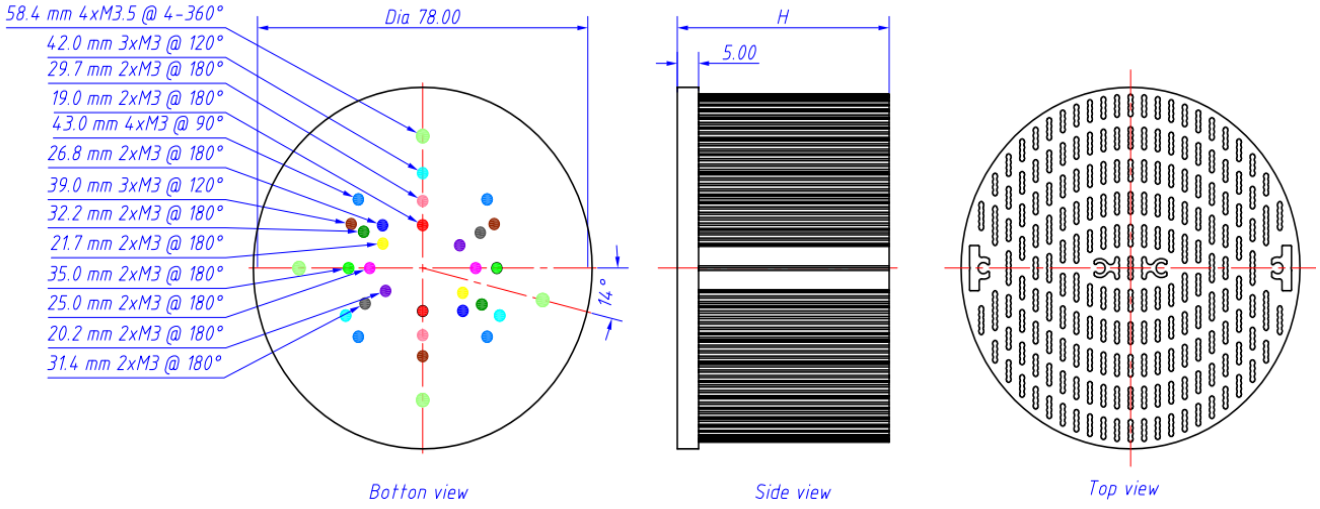
xLED xLED-80 Series Φ80mm Pin Fin Heat Sink Drawings



Drawings &Type Selection



No.	Finish	Mounting Hole
A1		17.0 mm 2xM3 @ 180°
A2		19.0 mm 2xM3 @ 180°
A3		20.2 mm 2xM3 @ 180°
A4		21.7 mm 2xM3 @ 180°
A5		25.0 mm 2xM3 @ 180°
A6		26.8 mm 2xM3 @ 180°
A7		29.7 mm 2xM3 @ 180°
A8		31.4 mm 2xM3 @ 180°
A9		32.2 mm 2xM3 @ 180°
A10		35.0 mm 2xM3 @ 180°
A11		39.0 mm 3xM3 @ 120°
A12		42.0 mm 3xM3 @ 120°
A13		43.0 mm 4xM3 @ 90°
A14		58.4 mm 4xM3.5 @ 4-360°
A15		◎ Ø11.5 Through hole @ Ø78.0



Product display

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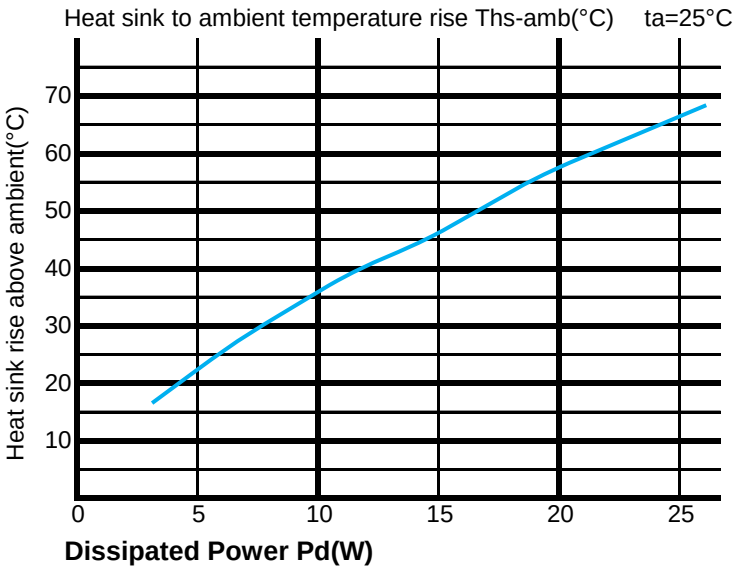
xLED **xLED-80 Series Φ80mm Material AL1070 Pin Fin Heat Sinks Thermal Data**

The thermal data table

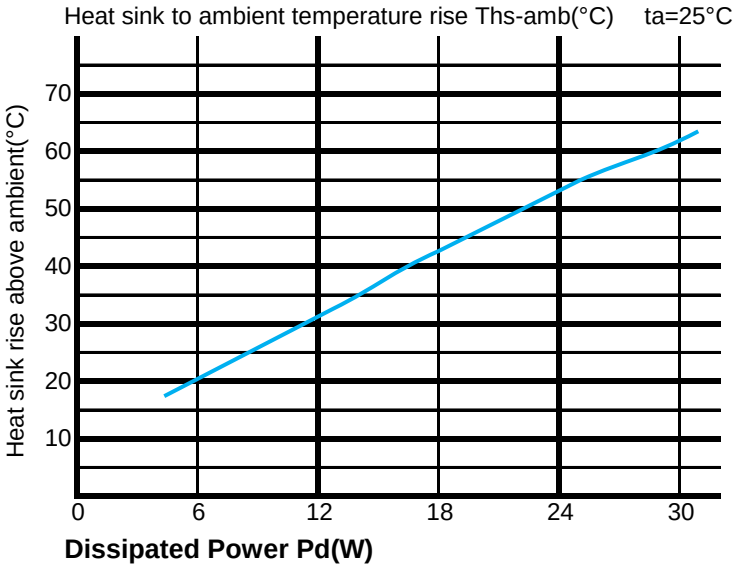
xLED-8030 thermal data

Pd = Pe x (1-ηL)		Heat sink to ambient thermal resistance Rhs-amb (°C/W)	Heat sink to ambient temperature rise Ths-amb (°C)
		xLED-8030	xLED-8030
Dissipated Power Pd(W)	5	4.8	24
	10	3.6	36
	15	3.13	47
	20	2.95	59
	25	2.72	68



xLED-8050 thermal data

Pd = Pe x (1-ηL)		Heat sink to ambient thermal resistance Rhs-amb (°C/W)	Heat sink to ambient temperature rise Ths-amb (°C)
		xLED-8050	xLED-8050
Dissipated Power Pd(W)	6	3.5	21
	12	2.67	32
	18	2.44	44
	24	2.25	54
	32	1.97	63



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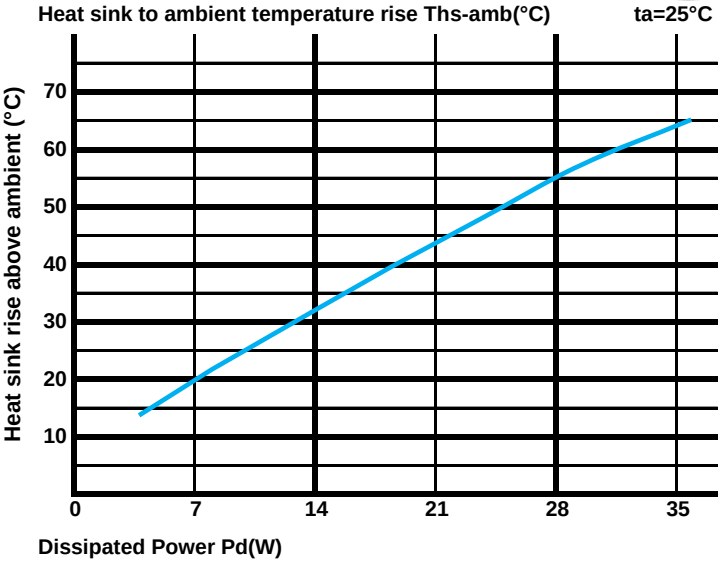
GooLED **GooLED-78 Series Φ78mm Material AL1070 Pin Fin Heat Sinks Thermal Data**

The thermal data table

xLED-8080 thermal data

Pd = Pe x (1-ηL)		Heat sink to ambient thermal resistance Rhs-amb (°C/W)	Heat sink to ambient temperature rise Ths-amb (°C)
		xLED-8080	xLED-8080
Dissipated Power Pd(W)	7.0	2.86	20.0
	14.0	2.29	32.0
	21.0	2.10	44.0
	28.0	1.96	55.0
	35.0	1.80	63.0



* Please be aware the dissipated power Pd is not the same as the electrical power Pe of a LED module.

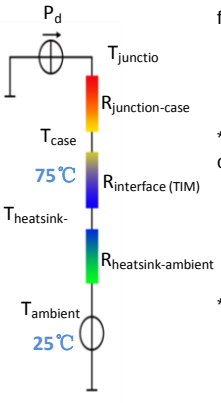
*To calculate the dissipated power please use the following formula: Pd = Pe x (1-ηL).

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

*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: 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 $R_{junction\text{-}case}$, the thermal resistance of the TIM outside the package is $R_{interface\ (TIM)}$ [°C/W], the thermal resistance with the heat sink is $R_{heatsink\text{-}ambient}$ [°C/W], and the ambient temperature is $T_{ambient}$ [°C].

*Thermal resistances outside the package $R_{interface\ (TIM)}$ and $R_{heatsink\text{-}ambient}$ can be integrated into the thermal resistance $R_{case\text{-}ambient}$ at this point.Thus, the following formula is also used:

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

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