LPF11180-ZHE LED Zhaga Pin Fin Heatsink ø 111mm

Features & Benefits

- Diameter 111mm base
- Thermal resistance Rth 1.07°C/W
- Extra bottom adaptation plate with base 10mm for flexible mounting options
- Standard height 80mm
- Other heights on request
- Forged from highly conductive aluminum
- Standard colors - clear anodised - black anodised

Order Information

Thermal Interface Material

Please make sure to apply a high thermal conductive material between the heat sink base and the LED engine with an applied thickness between 0.1mm and 0.2mm

Advised materials:

- Thermally Conductive Grease
  High performance, more difficult to apply and control the thickness
  Example Laird Technologies Tgrease 880
- Thermal Gap Filler Pad with eletrical insulation
  Medium to high performance, easy to apply
  Example Laird Technologies Tgard 500-A1
- Phase Change Thermal Interface Material
  This material applies like a thermal pad but becomes fluid and creates a perfect wetting at the first heating cycle
  Extra high performance, easy to apply
  Example Laird Technologies TPCM 585

Not using a suitable thermal conductive material will lead to either an insufficient wetting area or a high thermal resistance between LED engine and heat sink base both immediately resulting in an extra temperature increase of the LED junction
We do not advise the use of double sided thermal tapes without using extra mounting screws to create pressure

Thermal gap filler pads and phase change pads can be pre-applied by MechaTronix with specific cutting designs

Example: LPF11180-ZHE

LPF11180-ZHE-**1**-**2**

1 Finishing
"B" - Black Anodised
"C" - Clear Anodised
"Z" - Custom (specify)

2 Mounting Options - see graphics for details
Combinations available
Ex. order code - 13
means option 1 and 3 combined

MOUNTING OPTION	THREAD	THREAD DEPTH
NONE/BLANC	Zhaga + 3 x M3	NONE
1	M10 x 1.5	10mm MIN.
2	#3/8-24UNC	0.394" MIN.
3	M111 x 2	Base contour

4 to 6F, No.308, Ba De 1st Rd., Sinsin Dist., Kaohsiung City 80050, Taiwan
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Product Details

Model n°	LPF11180-ZHE
Dimension (mm)*1	ø111 x h80
Volume (mm^3)	211924.29
Cooling Surface (mm^2)	116830.16
Weight (gr)	572.2
Thermal Resistance (°C/W)*2	1.07
Power Pd (W)*3	48.2
Heat Sink Material	AL1070

*1 3D files are avaliable in ParaSolid, STP and IGS on request

*2 The thermal resistance Rth is determined with a calibrated heat source of 30mm x 30mm 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

*3 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

Notes:

- MechaTronix reserves the right to change products or specifications without prior notice.
- Mentioned models are an extraction of full product range.
- For specific mechanical adaptations please contact MechaTronix.

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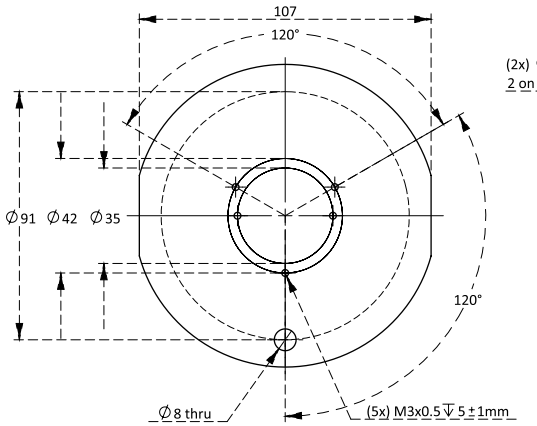
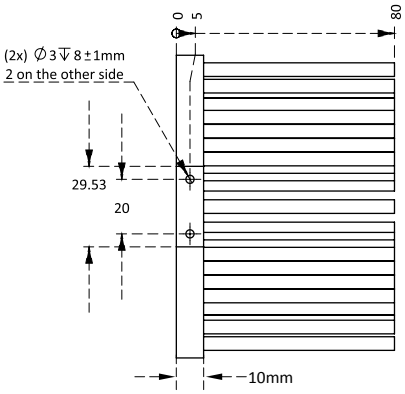
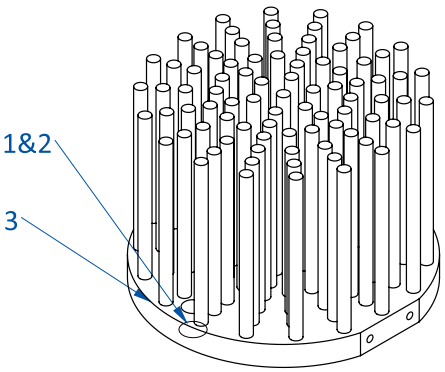
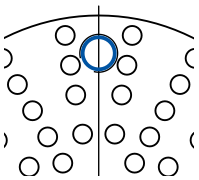
Drawings & Dimensions

Example: LPF11180-ZHE



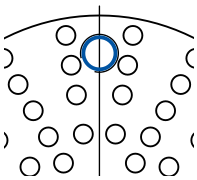






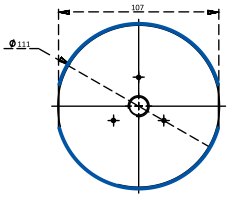
1 Mechanical version
Cable hole tapping

M10x1.5
Through out 10mm base



2 Mechanical version
Cable hole tapping

#3/8-24UNC
Through out 10mm base



3 Mechanical version
M111x2

Screw thread around base contour

Mechanical version-ZHE is the standard model and is kept in stock for fast sample delivery or adaptation to your needs
This version is standard foreseen from mounting holes for Zhaga book 3 LED modules, 3 extra holes in star shape which can be used for reflector and lens mounting and a cable hole through the base plate.
Futher adaptations can be made on stock samples and small series by CNC machining with delivery time 2 weeks, or in mass production with and MOQ from 1000pcs with lead time 6 weeks.
Please see also the standard available brand specific LED Pin Fin heat sinks under the related brands

Examples of customised pin fin heat sinks:

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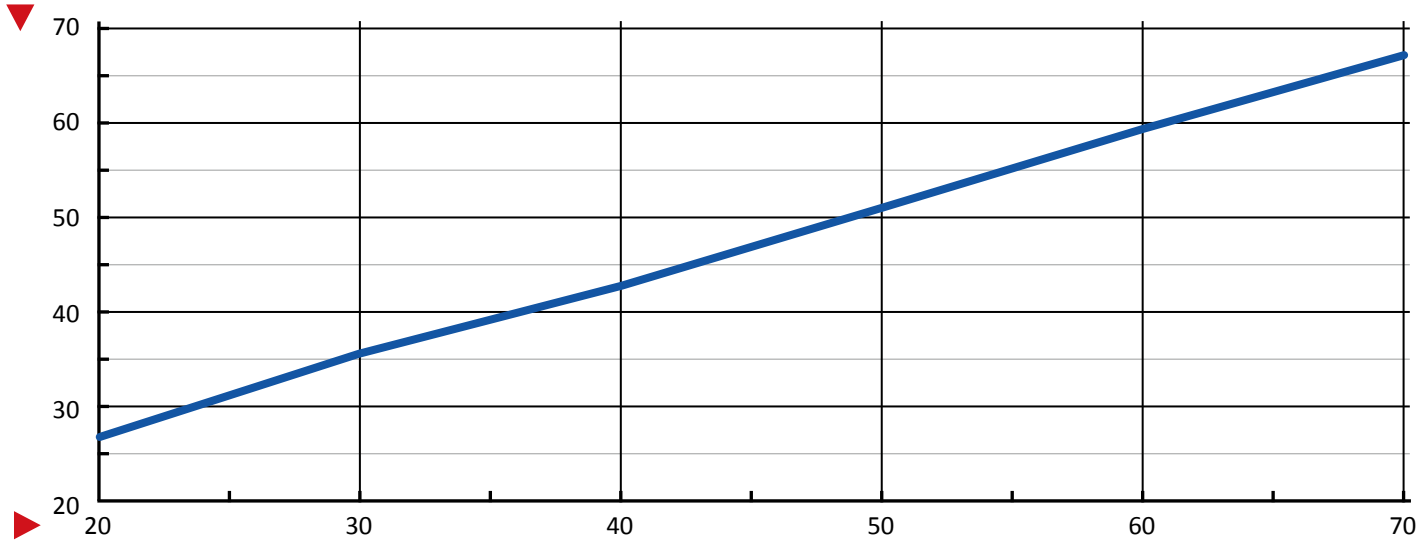
Thermal Data

Pd = Pe x (1-ηL)			LED Light efficiency, ηL (%)			Heat sink to ambient thermal resistance $R_{hs\text{-}amb}$ (°C/W)	Heat sink to ambient temperature rise $T_{hs\text{-}amb}$ (°C)
			17%	20%	25%	LPF11180	LPF11180
Dissipated Power Pd(W)	20	Electrical Power Pe(W)	24	25	26.66	1.25	27.0
	30		36.14	37.5	40	1.18	35.2
	40		48.19	50	53.33	1.12	43.3
	50		60.24	62.5	66.66	1.06	51.4
	60		72.28	75	80	1.00	59.6
	70		84.33	87.5	93.33	0.94	67.7

Heat sink to ambient temperature rise $T_{hs\text{-}amb}$ (°C) — LPF11180-ZHE



Dissipated Power Pd(W)

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