

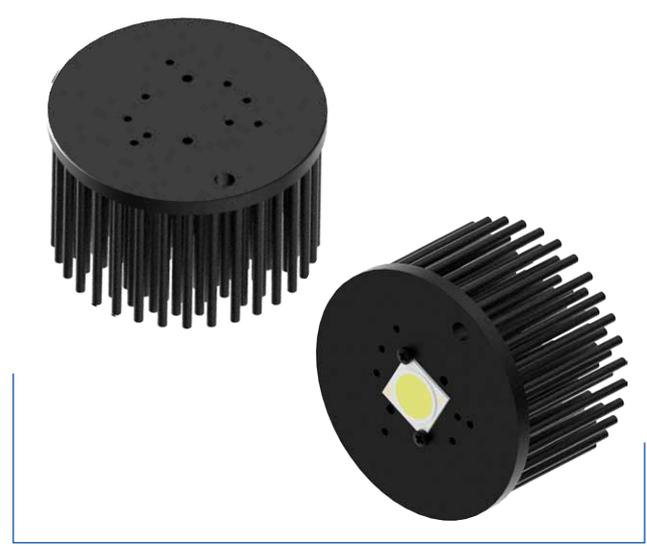
# MechaTronix in LED

## LPF8050-ZHC Citizen Zhaga LED Pin Fin Heat Sink ø80mm



### Features & Benefits

- Designed for Citizen CITED LED COB engines
- Diameter 80mm base - height 50mm
- Thermal resistance Rth 2.34°C/W
- Validated thermal design with CLL030-1205, CLL030-1206 and CLL030-1208 at nominal and full load with ambient temperature 25°C, 40°C and 50°C
- Specific mounting patterns for CITED CLL030 COB, Zhaga (book 3) LED holders from BJB, Molex and Tyco Electronics LED holders for CLL030 (1 and 2 part designs)
- Cable guidance hole



### Order Information



Your Connection to Light



Example : LPF8050-ZHC-B-1

LPF8050-ZHC - **1** - **2**

- 1** Anodising color - "B" - Black Anodised  
"C" - Clear Anodised  
"Z" - Custom ( specify )
- 2** B 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	NONE	NONE
1	M8x1	5mm
2	5/16-24 UNC	0.197"
3	M60x2	Base contour

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### Product Details



#### Model n°

Dimension (mm) <sup>*1</sup>	ø80 x h50
Volume (mm <sup>3</sup> )	72127.81
Cooling Surface (mm <sup>2</sup> )	74884.73
Weight (gr)	194.75
Thermal Resistance (°C/W) <sup>*2</sup>	2.34
Power Pd (W) <sup>*3</sup>	21
Heat Sink Material	AL1070

<sup>\*1</sup> 3D files are available in ParaSolid, STP and IGS on request

<sup>\*2</sup> 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

<sup>\*3</sup> 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:  $Pd = Pe \times (1 - \eta_L)$

Pd - Dissipated power

Pe - Electrical power

$\eta_L$  = Light efficiency 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.

# MechaTronix in LED

## LPF8050-ZHC Citizen Zhaga LED Pin Fin Heat Sink $\phi 80\text{mm}$



### Mounting Options



#### Citizen CITILED CLL030 LED COB

The LPF8050-ZHC LED pin fin heat sink is designed in this way that it offers sufficient cooling for the complete Citizen CITILED CLL030 series

**Design conditions:**

CLL030-1205, CLL030-1206, CLL030-1208

Module power  $P_e$  max 24.50W,

Dissipated power  $P_d$  max 18.38W

Ambient temperature  $T_a$  40°C

Please consult the thermal data graphs on the datasheet and the Citizen thermal validation overview on the website [www.led-heatsink.com](http://www.led-heatsink.com)

**Mounting:**

2 screws M3 x 4mm  
Recommended torque 4 to 6 lb/in

**MechaTronix**

recommends the use of a high thermal conductive interface between the LED COB module and the heat sink. Either thermal grease, a thermal pad with thickness 0.1-0.15mm or a phase change thermal pad thickness 0.1-0.15mm is recommended.

Thermal pads or phase change thermal pads can be pre-applied from MechaTronix



#### Zhaga compliant LED modules and holders (book 3)

The LPF8050-ZHC LED pin fin heat sink is foreseen from mounting holes according the Zhaga standard (book 3)

3 extra mounting holes M3 x 3mm are foreseen for direct reflector mounting option

**Mounting:**

2 screws M3 x 6mm  
Hole distance 35mm  
Recommended torque 4 to 6 lb/in



#### Tyco & BJB LED holders for Citizen CITILED CLL030

The LPF8050-ZHC LED pin fin heat sink is foreseen from mounting holes to fit the BJB and Tyco Electronics LED holders for Citizen CLL030 COB arrays

**Models:**

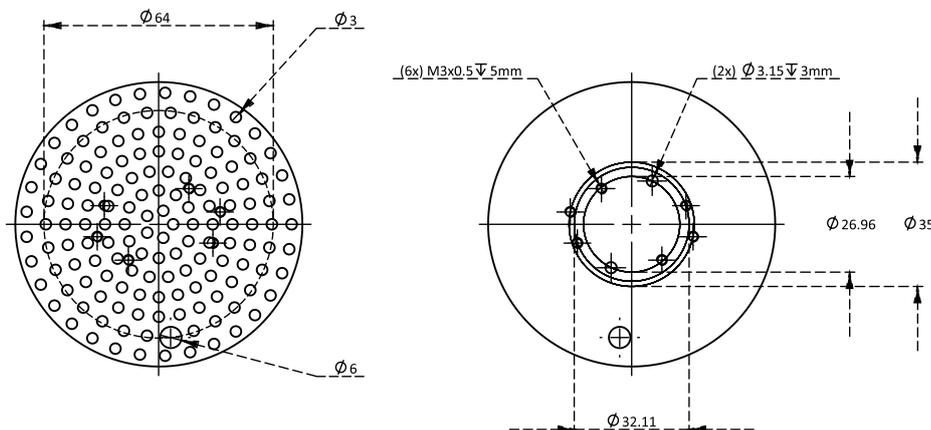
1 part LED holder - TE 6-2154874-1  
2 parts LED holder - TE 2-2154857-1  
Zhaga LED holder - BJB 47.319.2020.50

**Mounting:**

2 screws M3 x 6mm  
Recommended torque 4 to 6 lb/in



### Drawings & Dimensions



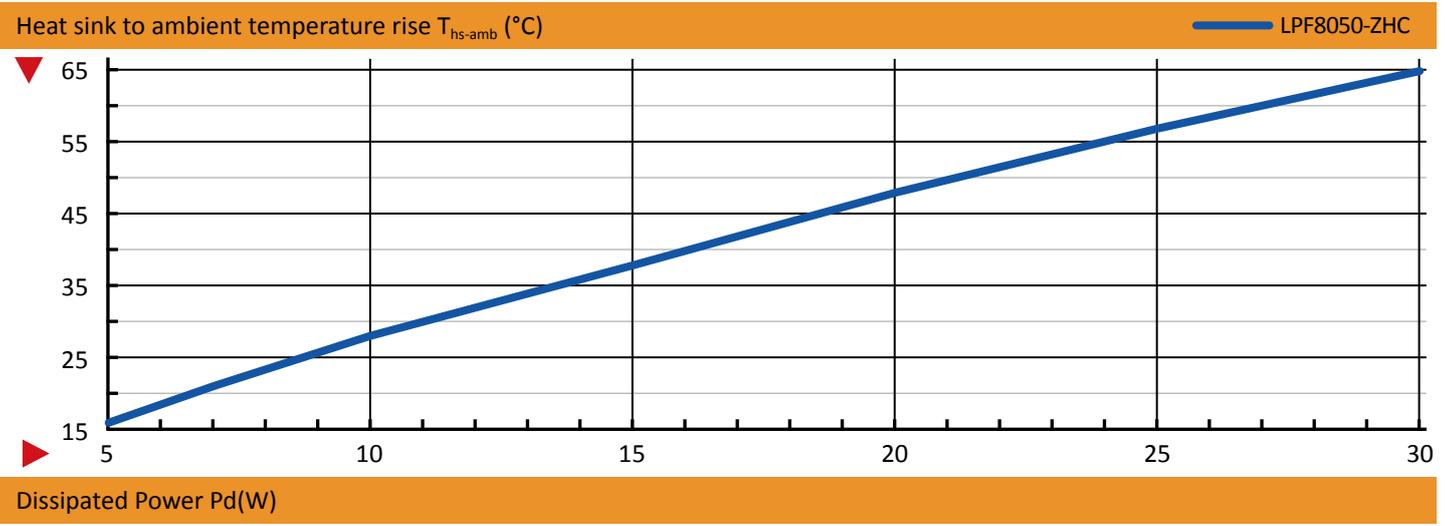
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### Thermal Data

$P_d = P_e \times (1-\eta_L)$			LED Light efficiency, $\eta_L$ (%)			Heat sink to ambient thermal resistance $R_{hs-amb}$ (°C/W)	Heat sink to ambient temperature rise $T_{hs-amb}$ (°C)
			17%	20%	25%		
Dissipated Power $P_d$ (W)	5	Electrical Power $P_e$ (W)	6.02	6.25	6.67	3.2	16
	7		8.43	8.75	9.33	3.0	21
	10		12.05	12.50	13.33	2.8	28
	15		18.07	18.75	20.00	2.5	38
	20		24.10	25.00	26.67	2.4	48
	25		30.12	31.25	33.33	2.3	57
	30		36.14	37.50	40.00	2.2	65



#### Citizen recommended case temperature $T_c \leq 85^\circ\text{C}$

Model	Forward Current $I_f$ (mA)	Electrical Power $P_e$ (W)	Case Temperature $T_c$ (°C)	Case Temperature $T_c$ (°C)	Case Temperature $T_c$ (°C)
			@ Ambient Temperature $T_a$ 25°C	@ Ambient Temperature $T_a$ 40°C	@ Ambient Temperature $T_a$ 50°C
CLL-030-1205	300	10.9	48	63	73
CLL-030-1205	600	24.4	69	84	-
CLL-030-1206	360	13.1	50	65	75
CLL-030-1206	720	29.2	76	-	-
CLL-030-1208	480	17.3	59	74	84
CLL-030-1208	960	38.1	-	-	-
CLL-030-1212	720	27.7	79	-	-