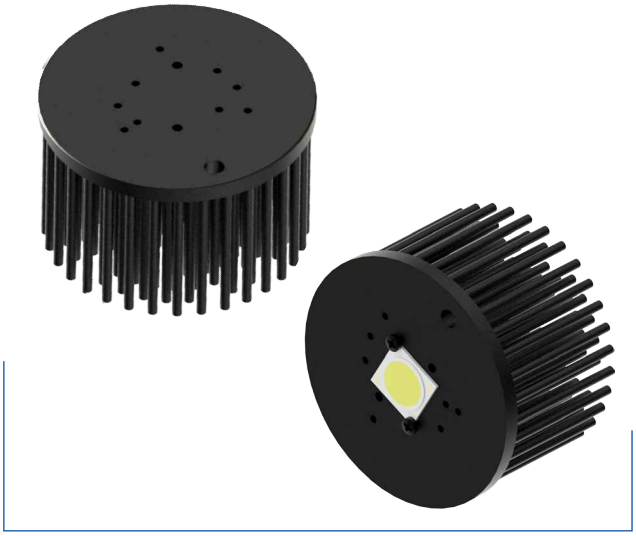
LPF8050-ZHC Citizen Zhaga LED Pin Fin Heat Sink ø80mm

Features & Benefits

- Designed for Citizen CITILED CLL030 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 CITILED 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

Zhaga

CITIZEN
Micro HumanTech

BJB
Your Connection to Light

TE connectivity

Example : LPF8050-ZHC-B-1

LPF8050-ZHC-1-2

1 Anodising color - "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	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)*1	ø80 x h50
Volume (mm^3)	72127.81
Cooling Surface (mm^2)	74884.73
Weight (gr)	194.75
Thermal Resistance (°C/W)*2	2.34
Power Pd (W)*3	21
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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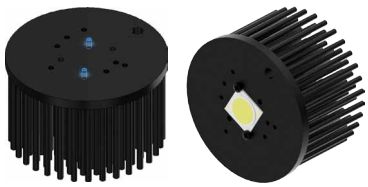
Mounting Options

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 Pe max 24.50W,
Dissipated power Pd max 18.38W
Ambient temperature Ta 40°C
Please consult the thermal data graphs on the datasheet and the Citizen thermal vailation overview on the website 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

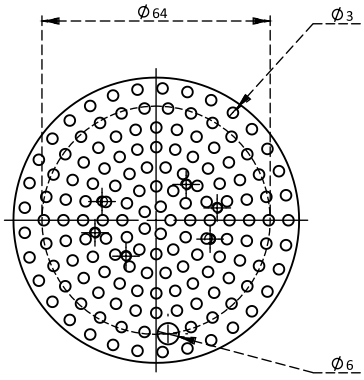
Tyco & BJB LED holders for Citizen CITILED CLL030

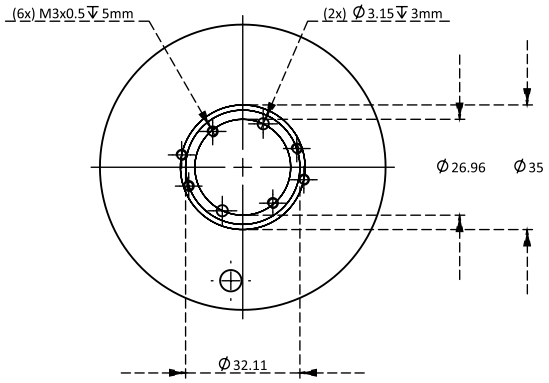
The LPF8050-ZHC LED pin fin heat sink is foreseen from mounting holes to fit the BJB and Tyco Electronics LED holders for Citizen CLL030 COB arrays

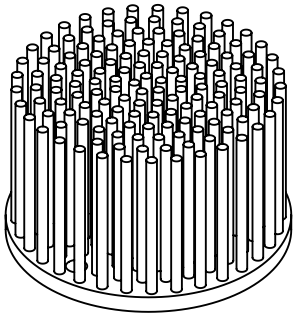
Models:
1 part LED holder - TE 6-2154874-1
2 parts LED holder - TE 2-2154857-1
Zhaga LED holder - BJB 47.319.2020.50

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

Drawings & Dimensions







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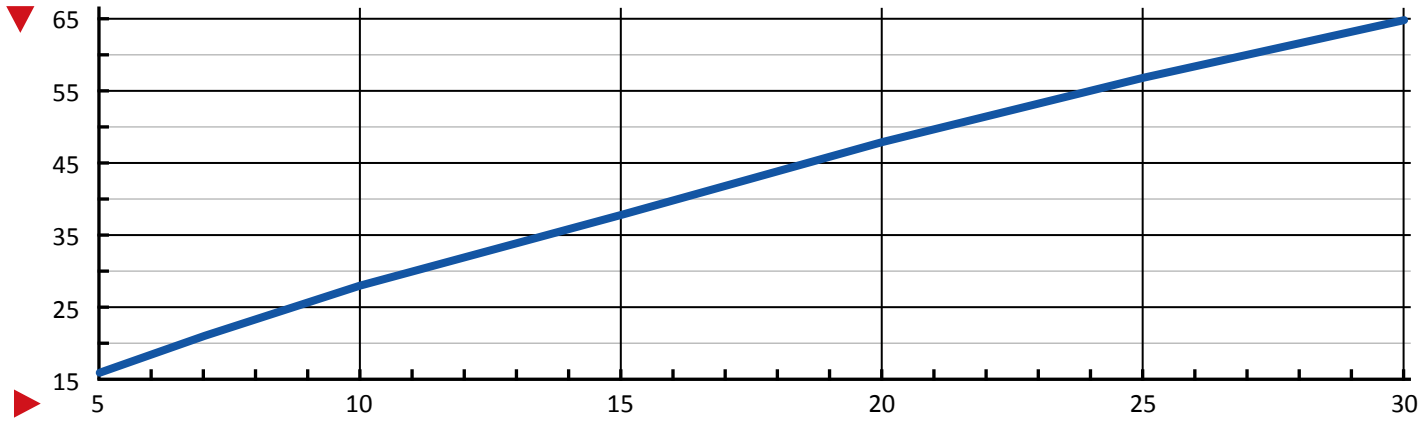
Thermal Data

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%	LPF8050-ZHC-B	
Dissipated Power Pd(W)	5	Electrical Power Pe(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

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



Dissipated Power Pd(W)

Citizen recommended case temperature Tc≤85°C

Model	Forward Current If (mA)	Electrical Power Pe (W)	Case Temperature Tc (°C) @Ambient Temperature Ta 25°C	Case Temperature Tc (°C) @Ambient Temperature Ta 40°C	Case Temperature Tc (°C) @Ambient Temperature Ta 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	–	–

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