

MechaTronix in LED

LPF50 LED Pin Fin Heatsink ϕ 50mm



Features & Benefits

- Designed for high-performance convection cooling of power LEDs
- Diameter 50mm base
- Thermal resistance Rth 3.5 - 4.5°C/W
- Forged from highly conductive aluminum
- 98 round pins for maximum cooling surface
- 3 standard heights 30 to 50 mm
Overall height can be customized from 10 to 60 mm
- 2 standard base thicknesses 3 and 5 mm
Other base thicknesses on request
- 3 standard colors - clear anodised - black anodised
blue anodised



Order Information

Example: LPF50A30-3-Black

LPF50 **1** **2** - **3** - **4**

- 1** Mechanical version
 - A] Solid base
 - B] Center hole ϕ 11.5mm
 - C] 3*M3 mounting hole
 - D] Center hole ϕ 11.5mm +
3*M3 mounting hole
 - XX] Customised
- 2** Height (pins+base) (mm) - 30, 40 or 50
- 3** Base thickness (mm) – 3 or 5
- 4** Color anodising – black, clear or blue



MechaTronix in LED

LPF50 LED Pin Fin Heatsink ϕ 50mm



Product Details

| | Total Height ^{mm} | Base Height ^{mm} | Rth(^{°C/W}) | Volume ^{mm³} | Cooling Surface ^{mm²} | Weight ^g |
|------------|----------------------------|---------------------------|------------------------|----------------------------------|---|---------------------|
| LPF50A30-3 | 30 | 3 | 4.5 | 14203.14 | 21023.54 | 38.35 |
| LPF50A40-3 | 40 | 3 | 3.8 | 17281.90 | 27181.06 | 46.66 |
| LPF50A50-3 | 50 | 3 | 3.5 | 20360.66 | 33338.58 | 54.97 |
| LPF50A30-5 | 30 | 5 | 4.5 | 17514.38 | 20106.19 | 47.29 |
| LPF50A40-5 | 40 | 5 | 3.8 | 20593.14 | 26263.71 | 55.60 |
| LPF50A50-5 | 50 | 5 | 3.5 | 23671.90 | 32421.24 | 63.91 |

Notes:

1. MechaTronix reserves the right to change products or specifications without prior notice.
2. Mentioned models are an extraction of the full product range.
For specific mechanical adaptations please contact MechaTronix.
3. All these types are made by forging process from highly conductive aluminum type AL6063 T5 with a typical Thermal Conductivity of 209W/m-K.



A Mechanical version
Solid base



B Mechanical version
Center hole ϕ 11.5mm



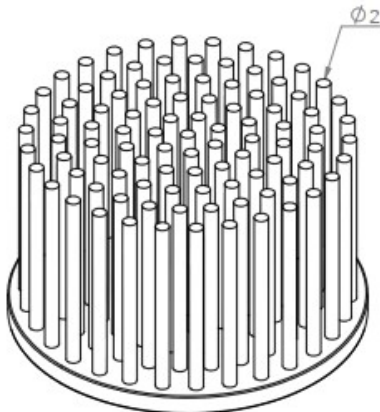
C Mechanical version
3*M3 mounting hole



D Mechanical version
Center hole ϕ 11.5mm + 3*M3 mounting hole

Drawings & Dimensions

Example: LPF50A30-3-Black



MechaTronix in LED

LPF50 LED Pin Fin Heatsink ϕ 50mm



Thermal Data

| Heat sink base to ambient thermal resistance, Rhs-amb [K/W] | | | |
|---|------------------|------------------|------------------|
| Power (W) | LPF50A30-5-Black | LPF50A40-5-Black | LPF50A50-5-Black |
| 7 | 5.0 | 4.4 | 4.1 |
| 10 | 4.6 | 4.0 | 3.7 |
| 15 | 4.2 | 3.6 | 3.4 |
| 17 | 4.0 | 3.5 | 3.2 |
| 20 | n/a | 3.4 | 3.1 |
| Rth Av. | 4.5 | 3.8 | 3.5 |

| Spreading resistance, Rsp [K/W] | | | | | |
|---|-------|-------|-------|--------|------|
| Base thickness | t=2mm | t=3mm | t=5mm | t=10mm | |
| Ratio of light engine (LE) area over heat sink base area, ALE/Ahs [%] | 1% | 0.87 | 0.61 | 0.41 | 0.30 |
| | 3% | 0.68 | 0.47 | 0.30 | 0.20 |
| | 5% | 0.54 | 0.37 | 0.24 | 0.15 |
| | 8% | 0.44 | 0.30 | 0.19 | 0.12 |
| | 11% | 0.36 | 0.24 | 0.15 | 0.09 |
| | 20% | 0.24 | 0.17 | 0.10 | 0.06 |
| | 32% | 0.16 | 0.11 | 0.07 | 0.04 |
| | 62% | 0.06 | 0.04 | 0.03 | 0.01 |

