

# 3D printed liquid cooled heatsink

### Summary:

3D metal printed micro-cooler for power electronics. Minimized scale, maximized cooling performance, we start where conventional cooler resign

### Differentiation:

Tailor-made high-performance coolers for very different applications starting from prototyping up to small and high volume serial production. From our *Thincooler* with a thickness of 0.8mm for circuit board integration to transistor coolers with up to 1.4kW cooling power in a housing as small as a cigarette box, including the cooler.

### Available products:

- *Thincooler* for circuit board integration
- Standard cooler available for TO-247 or SMD packages
- Coolers for discrete Transistors or Modules
- Coolers for converter of any shape
- Rapid Prototyping and tailor made coolers

### Company description:

IQ Evolution designs and manufactures tailor-made high-performance coolers for various applications. Rapid prototyping as well as high volume serial production is easy to utilize. IQ evolution expanded the business to the field of power electronics, especially to e-mobility and aviation, using stainless steel as preferred material with AI optimized cooling structures.

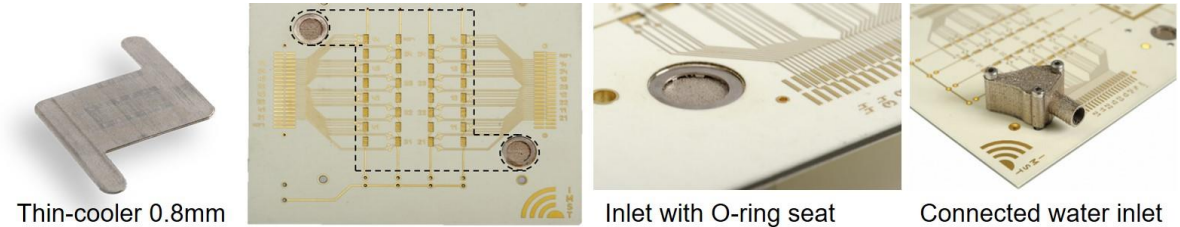
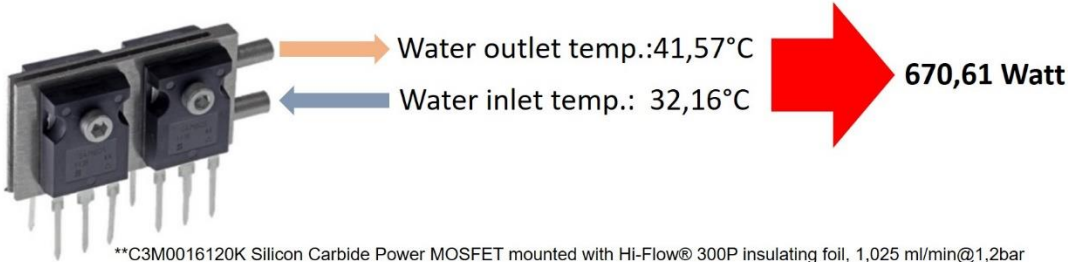
- Applications:
- ✓ Motor drives
  - ✓ Power supplies
  - ✓ Automotive
  - ✓ Renewables
  - ✓ Transportation
  - ✓ Aerospace
  - ✓ Server/Telecom
  - ✓ Battery Charging



### Technical specifications:

- Heat Flux Density 140W/cm<sup>2</sup> for a TO-247 and >750W for a 62mm module
- Very low thermal resistance
- Corrosion resistant due to stainless steel
- Range of resure drop: 0.3bar to 1.0bar (up to 3 bar possible)
- Range of flow rate: 300ml/min to 1.500ml/min

Measurement of „IQ-Four“\* Transistor cooler, 4 Mosfets @ 50A\*\*



- $P_{out,max} = 20.6 \text{ kW}$
- 98.1 kW/l
  - $V_{in} = 400 \text{ V}$
  - $V_{out} = 800 \text{ V}$
  - $f_s = 450 \text{ kHz}$



DC/DC converter with 100kW/l:

