



CooliBlade **AURORA**
NEOcore heat sink platform
for High-power applications

CooliBlade AURORA

CooliBlade AURORA is a powerful, entirely aluminum heat sink platform. It combines aluminum extrusion's highest volume manufacturability, cost benefits, and NEOcore phase-change technology.

NEOcore thermal channels of the AURORA structure are utilizing maximally the air interface to dissipate heat efficiently from the module or PCB.

AURORA offers flexibility to make flat heat sink solutions when the space for the heat sink element is limited. NEOcore thermal channels instantly transfer the heat from the hot spots to the whole structure, decreasing the temperature of the electronic module substantially.

AURORA enables the heat sink space to be efficient for cooling.

AURORA product family has two evaluation designs, making evaluating the AURORA product platform's performance easy.

AURORA heat sinks can handle up to several kilowatts of thermal load.

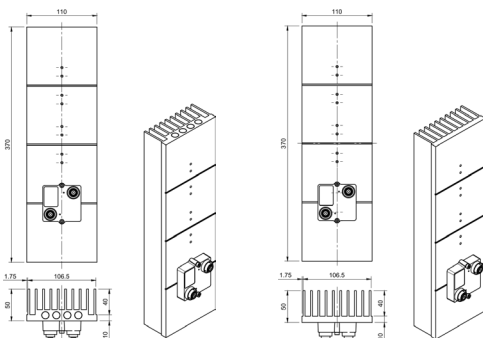
NEOcore

CooliBlade's compact and cost-effective NEOcore Thermal Channel enables fast, non-destructive, high-performance cooling technology for component, PCB, and module cooling applications. NEOcore consists of

- Efficient evaporator which connects heat efficiently from the component to the heat sink
- extreme thermal conductivity in the thermal channel
- optimized condenser with fins to dissipate heat from heat sink to air.

How to begin?

We have made two evaluation designs that can be used to dive into the AURORA product platform. AURORA platform fits well, especially for IGBT cooling when IGBT modules are mounted vertically. With evaluation, and design results, it is easy to evaluate the applicability of the AURORA heat sink platform and its performance benefits.



AURORA heat sink

Aluminum reference heat sink

Typical properties of AURORA

	AURORA with resistor module 50 mm x 50 mm		AURORA with 3 IGBT modules 122 mm x 62 mm	
Heat sink dimensions L x W x H	370 x 110 x 50		300 x 215 x 77	
Thermal power [W]	950	1400	3800	4500
Heat sink surface T above ambient [°C]	81.5	123	83.8	98,2
Rth [K/W]	0.087		0.022	

Key Benefits

- **High performance** - Extreme thermal performance from power modules or PCBs
- **Easy integration** - AURORA's dimensions are easily adjusted based on the customer's specifications, making retrofitting possible with vertical and horizontal installation.
- **Small footprint** - AURORA is an ideal solution for vertical installation with only a narrow space available.
- **Cost-efficient** - AURORA can be produced by an aluminum extrusion process, making it cost-efficient.

Conclusion

AURORA product family is integrated thermal management solutions based on customer's requirements. Unique flexibility and CooliBlade's integrated aluminum NEOcore technology makes AURORA products optimal for electronics cooling where the heat performance is limited by air interface, and the height of the cooling element is limited due to the mechanical design of the device.