

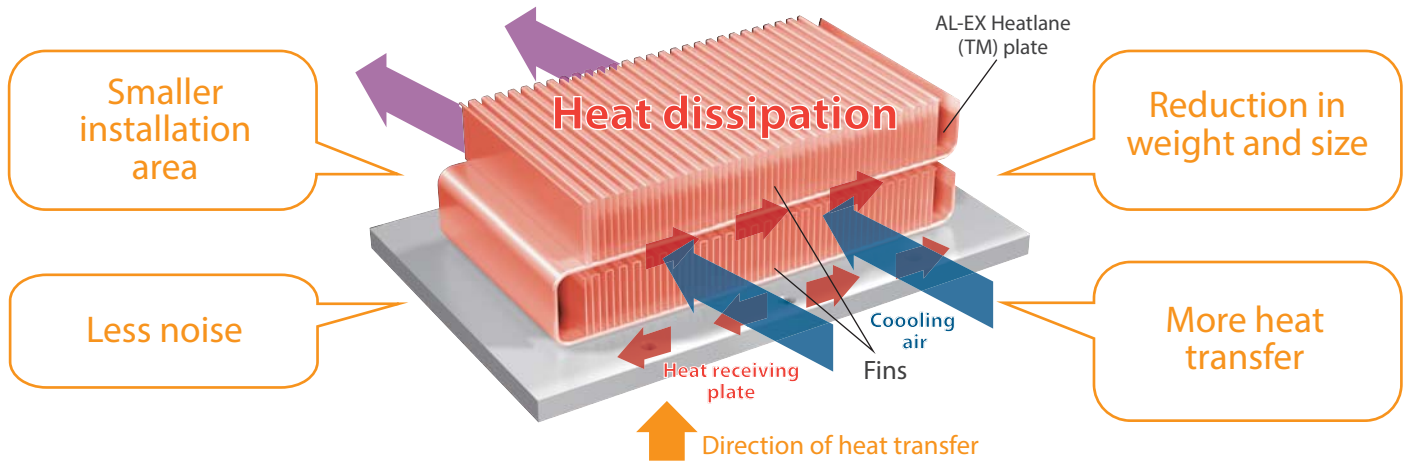
Application Example of HEATLANE®

Case Study for Mizutani Electric Ind. Co., Ltd.



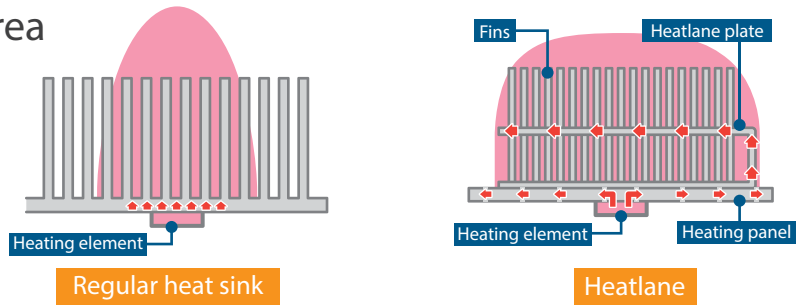
Patent, trademark registered

Designed to offer the best performance in the limited space



Expand the Heat Dissipation Area

- Quickly dissipates heat and extends heat dissipation area
- Extremely effective when cooling down devices with high thermal density
- Thermal characteristics are reinforced by heat transfer through accumulated low-height fins on Heatlane



Evaluation example

Model shape used:
200 width x 130 length x 70 height, 8.2 base thickness (mm)

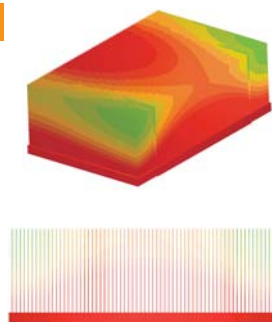
Conditions - Heating element: 140 x 130 (mm), 500 (W)
- 2 m/s front velocity

Types	Modeling of fins (mm)	Thermal resistance (°C/W)	Mass (g)
Heatlane	0.5 (thickness) x 110 (length) x 28 (height), 56 fins x 2 layers	0.064	1130
Regular heat sink	0.5 (thickness) x 130L (length) x 61.8 (height) x 66 fins	0.088	1300

CFD analysis application

Regular heat sink

Heat centers near the heating element. The degree of Fin effectiveness remains low as the heat dissipating area is small.

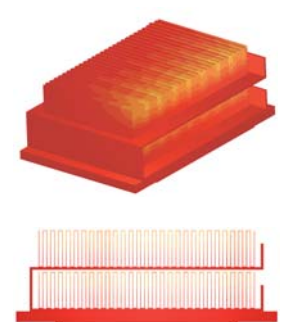


Heatlane

Heat is transferred to the entire fin through Heatlane plates. Functioning performance is optimized by high fin effectiveness and dissipated base heat.

	Thermal resistance (°C/W)
Measured value	0.065
Analysis value	0.064

Analysis and test values are virtually equal



Customer Comments

Accurate thermal analysis is crucial for satisfying engineers' various needs today. scSTREAM and HeatDesigner are the very rare tools that enable us to simulate our designs in a way as close to actual measurements as possible. We are happy with Cradle's software and hope to continuously use it for more thermal analyses.