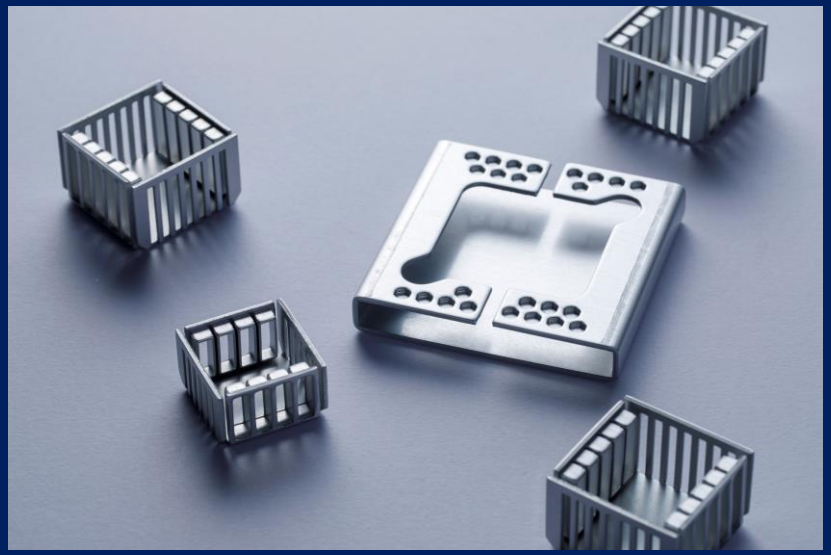
KAGA, INC.

Product Introduction
＜KAGA Heat Sink＞



Product Introduction

＜KAGA Heat Sink＞

1. KAGA Heat Sink is an **Efficient heat transfer shaped**
2. KAGA Heat Sink is made of **99.5% or more Purity Aluminum**
3. KAGA Heat Sink is pressed **using many Patented Technologies**

KAGA Heat Sink is a new idea of heat sink realized by our own special plasticity working.

Based on KAGA's unique special plasticity working, we have developed a new heat sink realized by pressing only without casting or cutting.

KAGA Heat Sink is an efficient heat transfer shape.

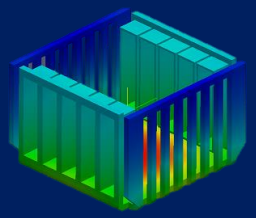
1. KAGA Heat Sink is an Efficient heat transfer shaped

We propose a High-performance heat sink, which is designed by thermal analysis.

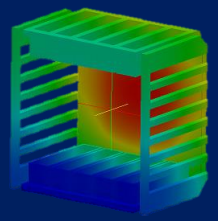
Temperature rise	Horizontal：53K	Horizontal：60K	Horizontal：50K
Heat sink / Point / Heat source	Vertical：60K	Vertical：64K	Vertical：57K
Number of fins	64	48	48
Surface	9300mm²	7500mm²	7500mm²
Weight	17g	15g	15g

・300mm square space ・Space temperature 27℃ ・Heat source 3W

Horizontal Base：49K



Vertical Base：54K



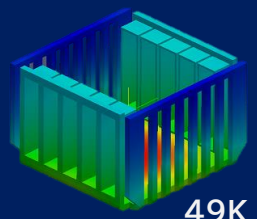
KE3020

Surface	8200 mm²
Weight	6g

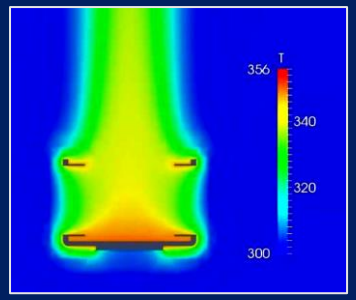
1. KAGA Heat Sink is an Efficient heat transfer shaped

・Natural Air Cooling (Sideways)

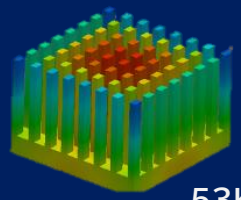
KE3020



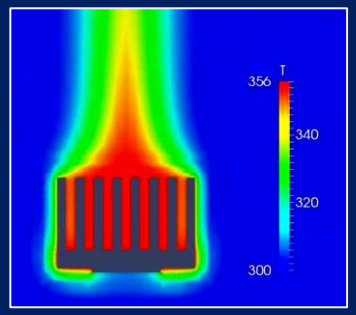
49K



Extruded heat sinks

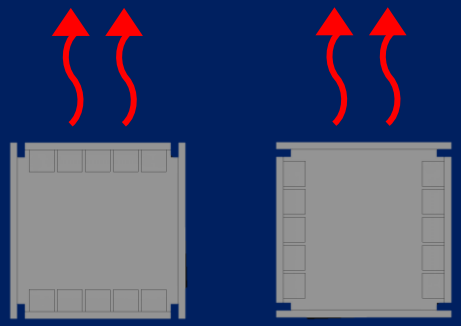


53K



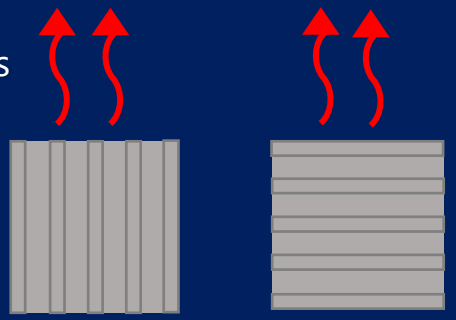
・Natural Air Cooling (Upright)

KE3020



54K　58K

Extruded heat sinks

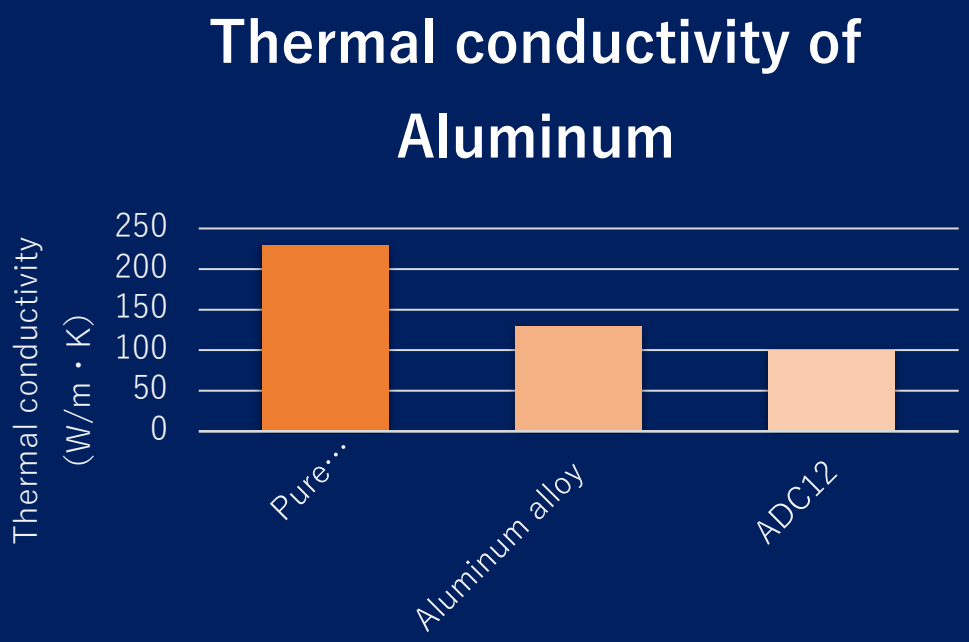


56K　74K

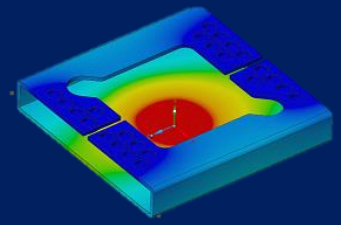
・300mm square space　・Space temperature 27℃　・Heat source 3W

2. KAGA Heat Sink is made of 99.5% or more Purity Aluminum

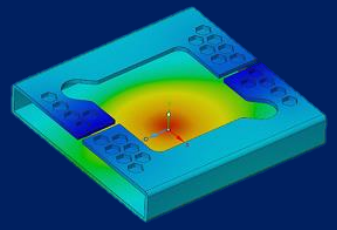
The fin of heat sink can be Thinner and Lighter
and is High-performance by its superior heat conduction of Pure Aluminum.



・Aluminum Alloy
Thermal conductivity：130(W/m・K)



・Pure Aluminum [A1050]
Thermal conductivity：230(W/m・K)



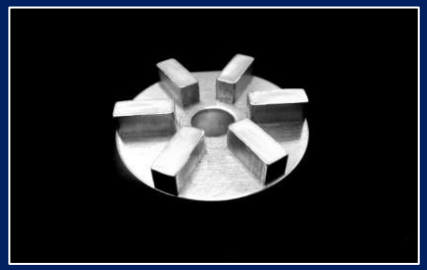
KG6010 (25g)

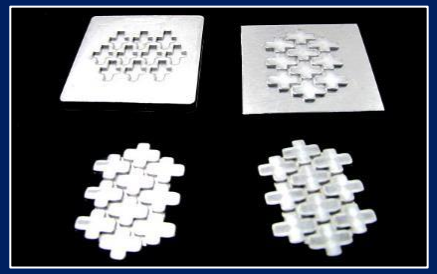
3. KAGA Heat Sink is pressed using many Patented Technologies

KAGA Heat Sink is pressed using KAGA-SPC technology as well as many other patented technologies.
KAGA Heat Sink is an original High-performance shaped.

KAGA-SPC



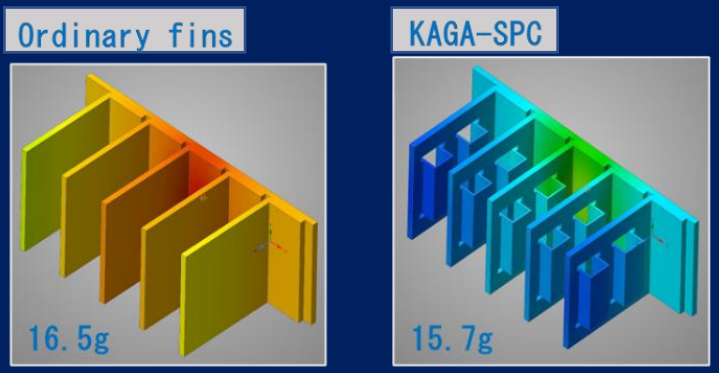


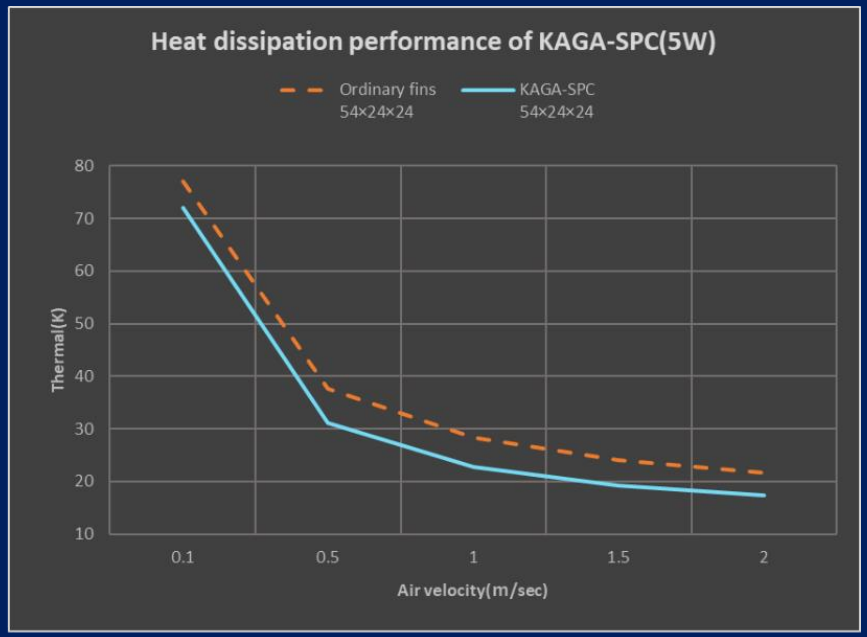



3. KAGA Heat Sink is pressed using many Patented Technologies

The fins used KAGA-SPC technology have High Performance

By pressing with KAGA-SPC technology,
the performance of heat sink can be improved
even with ordinary fins.

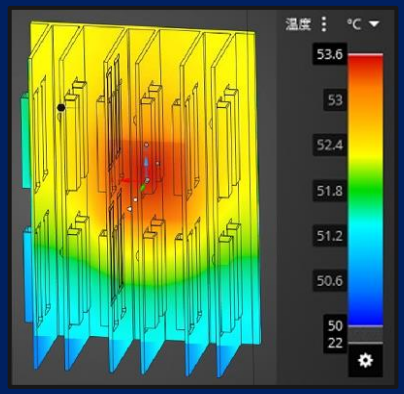




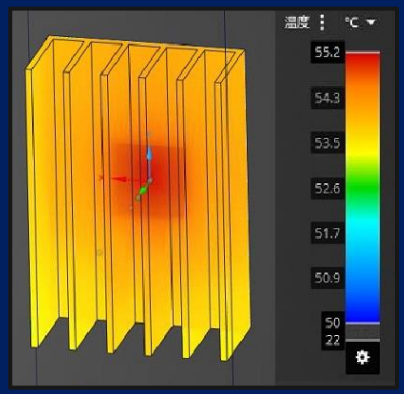
3. KAGA Heat Sink is pressed using many Patented Technologies

Heat Sink Example [KH608530A-B]

KAGA's Unique Cold Press process, KAGA-SPC®, can form a variety of fins.
Can be made to a minimum thickness of 0.15mm.



KH608530A-B



General castings

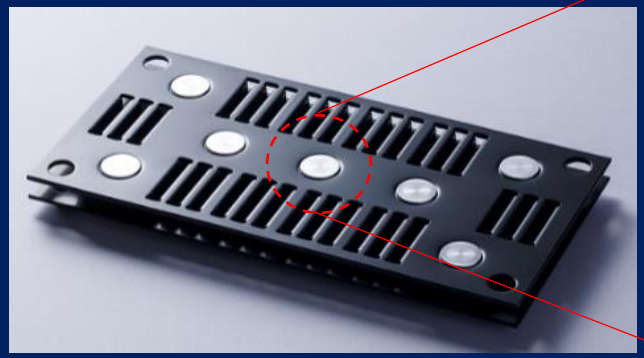
3. KAGA Heat Sink is pressed using many Patented Technologies

High Thermal Conduction Connection Technology

The patented connecting technology of KAGA Heat Sink shows very High Heat Conduction.

※Cut Surface

KI20010015B

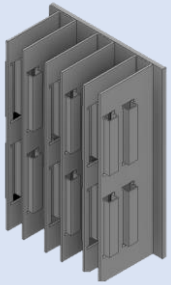


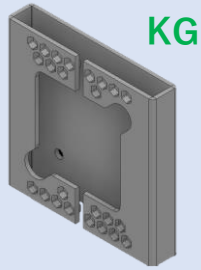
＜KAGA Heat Sink＞

Features by Series

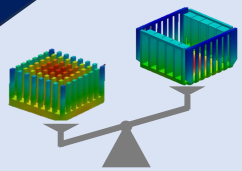
KH series

KG series

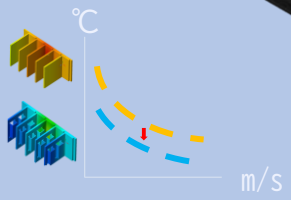




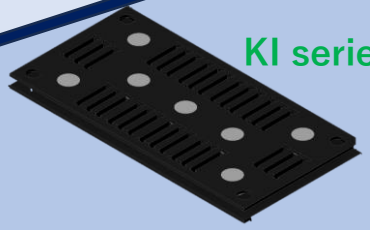
Light Weight



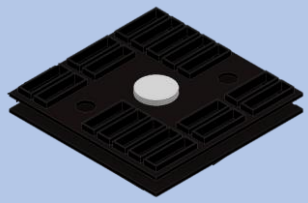
High Performance



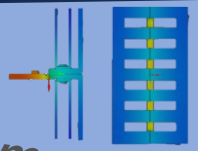
KI series

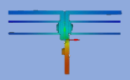


KH series

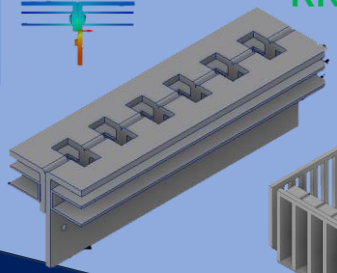


Customize for your requirement

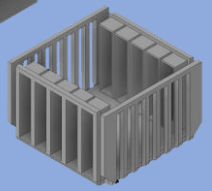




KK series

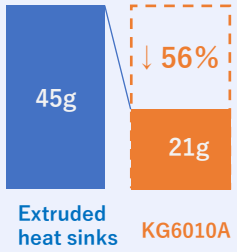
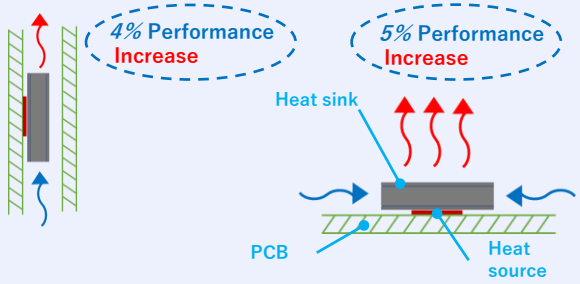
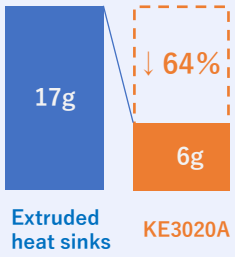
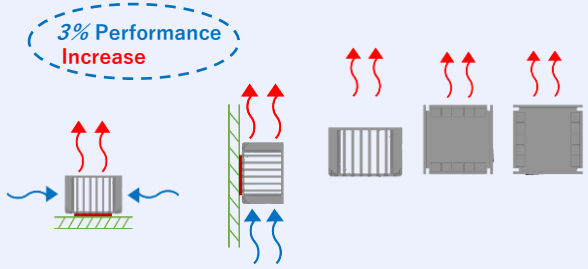


KE series



＜KAGA Heat Sink＞

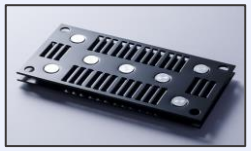
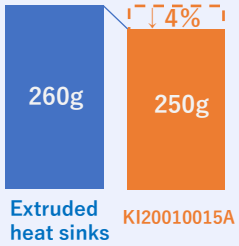
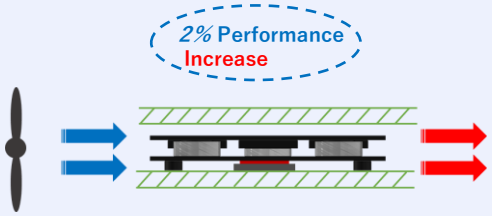
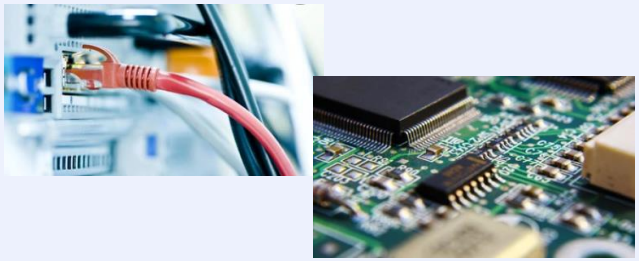
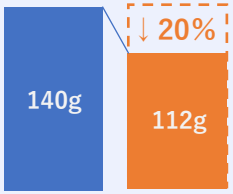
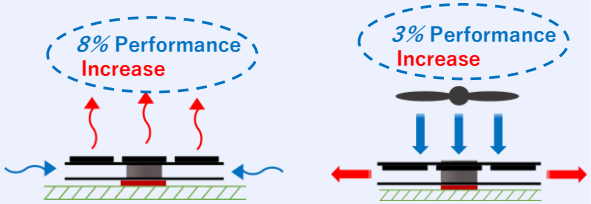
Weight Reduction＞＞＞Thinner and Lighter Fins by KAGA-SPC
High Performance＞＞＞Its Superior Heat Conduction of Pure Aluminum

	Weight Reduction	Advantages over Extruded heat sinks	Possible Applications
[KG series] 	60×60×10 (mm) 	・Can be installed in Narrow Spaces (Upright) ・Natural Air Cooling (Sideways) 	・For Personal Computer CPU ・For Medical Monitor ・For Graphic Board
[KE series] 	30×30×20 (mm) 	・Natural Air Cooling (Sideways/Upright) ・3 Ways for Placement 	

・Heat source：　PCB：

＜KAGA Heat Sink＞

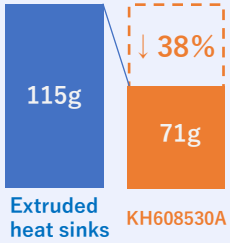
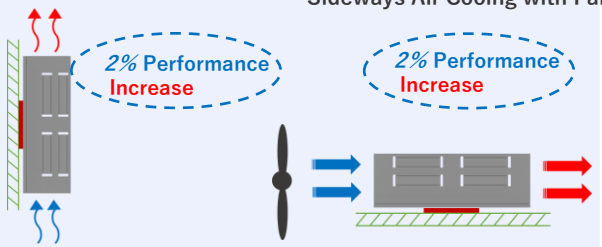
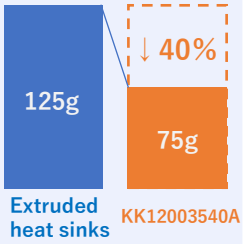
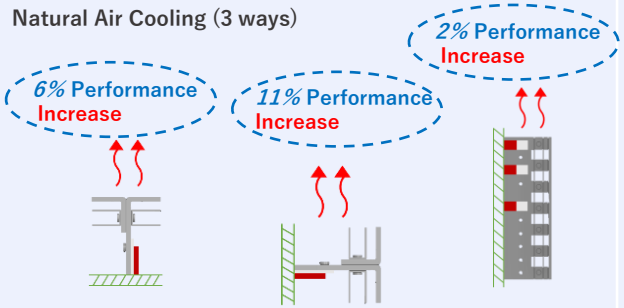
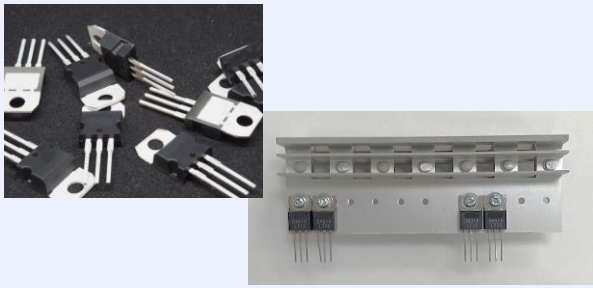
Weight Reduction＞＞＞Thinner and Lighter Fins by KAGA-SPC
High Performance＞＞＞Its Superior Heat Conduction of Pure Aluminum

	Weight Reduction	Advantages over Extruded heat sinks	Possible Applications
[KI series] 	200×100×15 (mm) 	・Sideways Air Cooing with Fan 	・For Optical Transmission Device ・For Electronic Equipment 
[KJ series] 	100×100×15 (mm) 	・Natural Air Cooling (Sideways) ・Upright Air Cooing with Fan 	・For Automotive Headlight 

・Heat source：　PCB：

＜KAGA Heat Sink＞

Weight Reduction＞＞＞Thinner and Lighter Fins by KAGA-SPC
High Performance＞＞＞Its Superior Heat Conduction of Pure Aluminum

	Weight Reduction	Advantages over Extruded heat sinks	Possible Applications
[KH series] 	60×85×30 (mm) 	・Natural Air Cooling（Upright） ・Sideways Air Cooing with Fan 	・For Automotive Headlight 
[KK series] 	120×35×40 (mm) 	Natural Air Cooling (3 ways) 	・For Semiconductor 

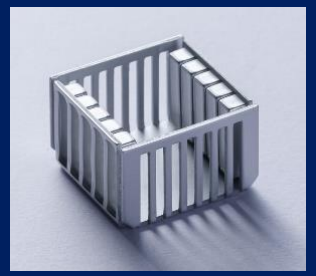
・Heat source：　PCB：

Please Contact us for Heat Countermeasures

Performance of the Heat Sink is Strongly Affected by its Surroundings

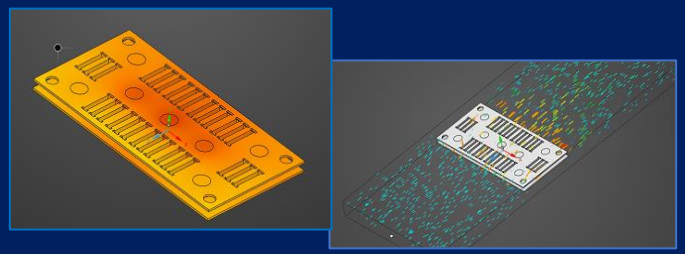
The most suitable shape of a heat sink varies by the usage.
Particularly, its performance is affected by setting direction,
the space around, or whether it has a fan.
We ask customers in detail about a purpose and using environment
to propose the best shaped heat sink.

KE3020A



We pursue a High-performance Heat Sink by Thermal Fluid Analysis

We design a heat sink with good heat dissipation performance using thermal fluid analysis software.



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