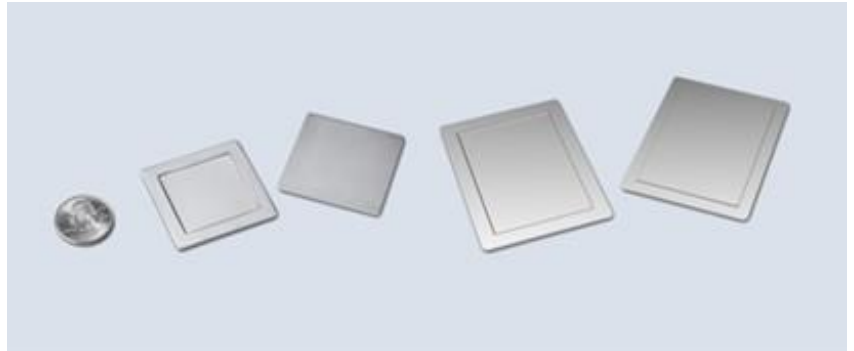
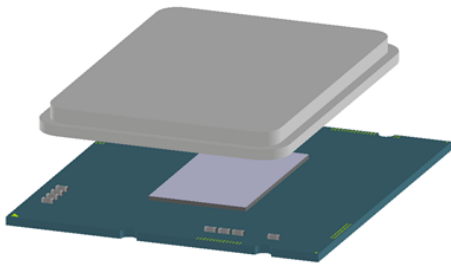


# Heat Spreader

## Introduction

A heat spreader is high thermal conductive metallic materials for efficient heat dissipation from an IC chip in a semiconductor package.

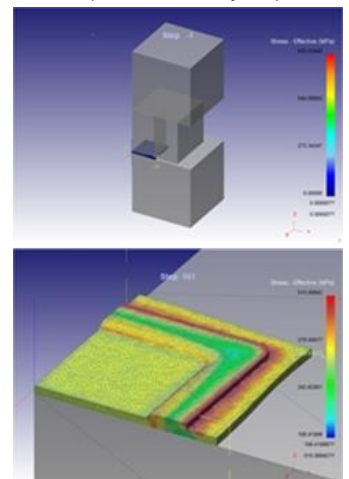
SHINKO manufactures various types of heat spreaders by using excellent stamping and surface finish treatment technologies. These spreaders are used in CPUs for desktop personal computers and servers.



## Features

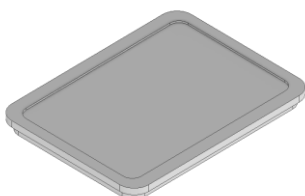
- Mass-production technology for Transfer stamping
- Products with more complicated shapes can be produced by combining stamping and machining
- Lead time reduction of stamping tools by using simulation
- Consistent process from stamping die tool design and manufacturing, heat spreader stamping and machining to surface treatment
- Advanced surface treatment for superior corrosion resistance and ease for package assembly
- Specifications
  - Material : Cu (C1020, C1100)
  - Surface Treatment : Electrolytic Ni Plating or Electrolytic Ni/Selective Au Plating
  - Heat spreader Size : Outer Length 10 ~ 100 mm, Thickness 1.0 ~ 4.5 mm

Simulation of Stamping Tools (Stress Analysis)

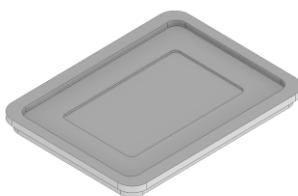


- Support various sizes and shapes for meeting your chip size and location

Standard Shape



Multi-step Shape for Interposer



Pedestal Shape for Heterogeneous Integration

