

# Standard Heat Sinks

## Standard BGA Heat Sinks

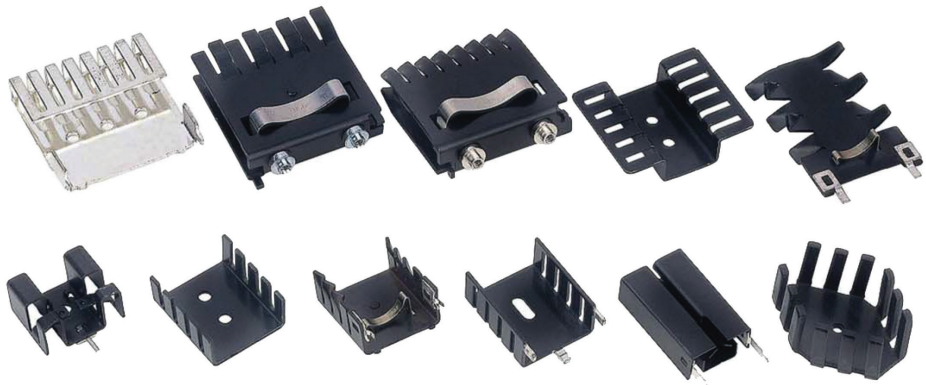
Made from high conductivity extruded aluminum, 6063-T5, Baknor's high quality BGA heat sinks handle even the most demanding applications. You can select from a variety of sizes, shapes and attachment options for the best cooling solution. If you don't find what you need in the standard options, Baknor offers a custom design service to meet all your cooling requirements.



## Standard Stamped Heat Sinks

Stamped Heat Sinks provide an economical solution to low power density thermal problems in natural convection environments. Produced using high volume manufacturing techniques to ensure the lowest cost, copper or aluminum sheet metal is stamped into a desired shape. Attachment features and interface materials can easily be added during the manufacturing process, simplifying the bill of materials and ultimately reducing assembly costs.

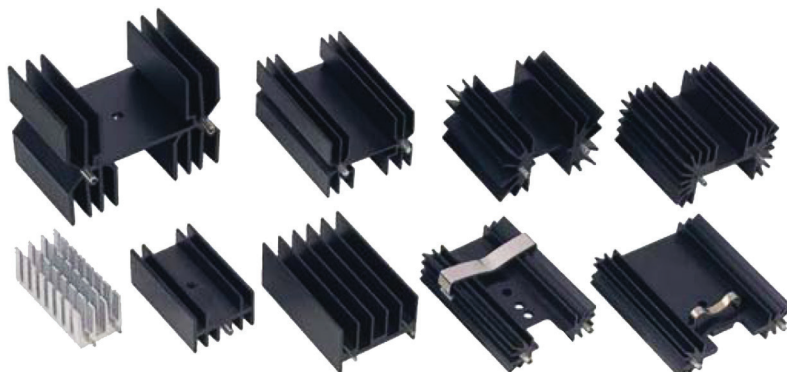
- PC Board Level Standard Heat Sinks
- Clips, Nuts or Thermal Pad Options Available
- Standard For TO220s, TO-3s, TO-126s, TO-127s, TO-202s, TO-218s
- Aluminum Anodized Material with Solder-able Tabs or Aluminum Tin Plated, Or Copper Tin Plated



## Standard Extruded Heat Sinks

Baknor's extruded heat sink data base offers an extensive line of different types, sizes and shapes. Eliminate tooling costs by basing your fabricated heat sink design on one of our tooled extrusion profiles. In addition to the database of standard profiles, Baknor has the ability to extrude custom shapes. Our advanced capabilities include:

- Material: 6063-T5
- Clips, Nuts or Thermal Pad Options
- Min Fin Thickness: 0.020" [0.5 mm]
- Maximum Circle Size: 10.2" [259 mm]
- Fin Aspect Ratio: 20:1 PC Board Level Standard Heat Sinks
- Aluminum Anodized or De greased Material with Solder-able Tabs
- Standard For TO220s, TO-3s, TO-126s, TO-127s, TO-202s, TO-218s



### Baknor Thermal and Packaging

Thermal Management Solutions

Thermal Modeling Solutions

Natural Convection Heat Sinks

- BGA Cooling
- Heat Sinks Extrusion
- Heat Sinks Castings
- Heat Sinks Machining
- Heat Sinks Forged

Forced Convection Heat Sinks

- Fin Assemblies
- Fan Assemblies

Phase Change Heat Sinks

- Heat Pipes
- Vapor Chambers

Liquid Cooling Cold Plates

- Brazed Cold Plates
- Tube Liquid Cold Plates
- Standard Liquid Cold Plates

Thermal Assemblies

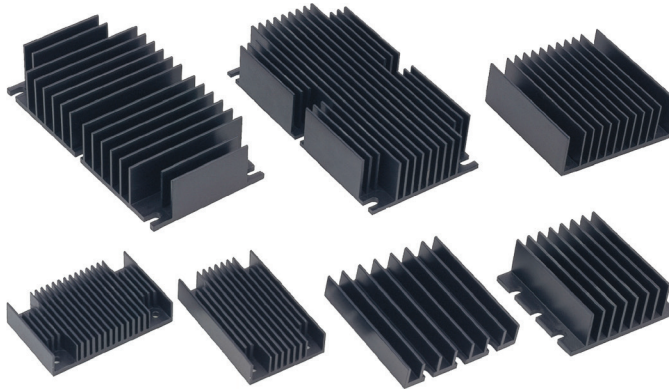
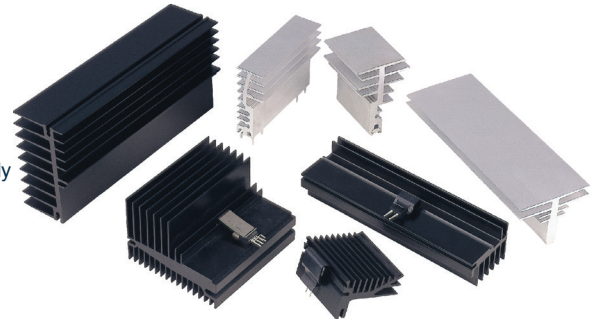
Baknor aggressively pursues price and technology improvements for our customers.



# Standard Heat Sinks

## Extruded Heat Sinks with Clip System

- Easy Assembly For Power Transistors
- Optimizes Thermal Management By Flexible Cutting Length
- Tabs And Nuts On The Heat Sink Available For PCB Assembly



## Standard DC To DC Converter Heat Sinks

- Same Hole Location
- Different Height for Different Power Packages
- Thermal Pads Available

### BAKNOR PRODUCT LINES ALSO INCLUDE

Custom Packaging Solutions  
Metal Components  
Sub Assemblies

Designed By Baknor Or  
We Build To Your Print

#### Machining

- Precision
- Repeatable
- Complex

#### Precision Die Casting

- High Quality
- Aluminum
- Zinc
- Magnesium

#### Fabricated Extrusion

- Standard Profiles
- Custom Profiles
- Complete Finishing

#### Precision Packaging

#### Mechanical Assemblies

#### Electro Mechanical Assemblies

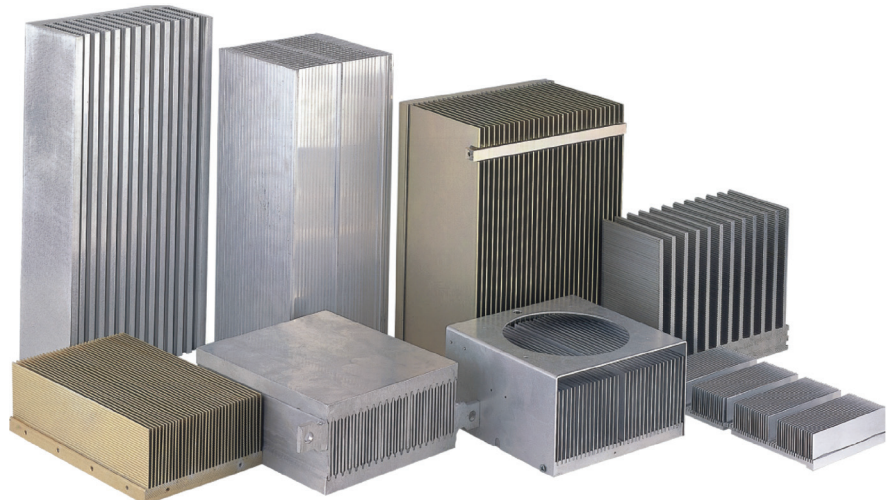
Fabricated, fully tested, and ready-to-install.

## Fabricated Fin Heat Sinks

Baknor's thermal experts will work with you to create the most efficient and cost effective design for folded fin and stamped fin assemblies. In our process, we design the base and fin structure using the most cost effective fabrication technology. We offer design flexibility to mix materials to maximize performance or minimize cost ( i.e. aluminum for the fins and copper for the base). We also offer the option to join components with epoxy for cost sensitive applications or solder for a high performance applications.

#### Advantages Include:

- Maximum Cooling Surface Area
- Design flexibility
- Cost effective
- Material Options
  - Copper
  - Aluminum
- High Power Thermal Solutions
- Swaged / Forced, Thermal Conductive Epoxy Bonded Fin Heat Sinks
- CNC Machining Capabilities For Power Device Assembling
- Maximum Dimension For Epoxy Bonded Fin Heat Sink as long as 1600mm and as wide as 600mm



**baknor**

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