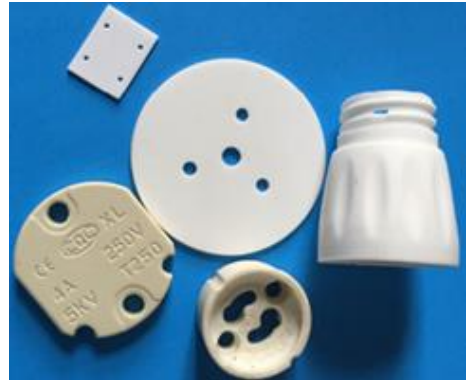




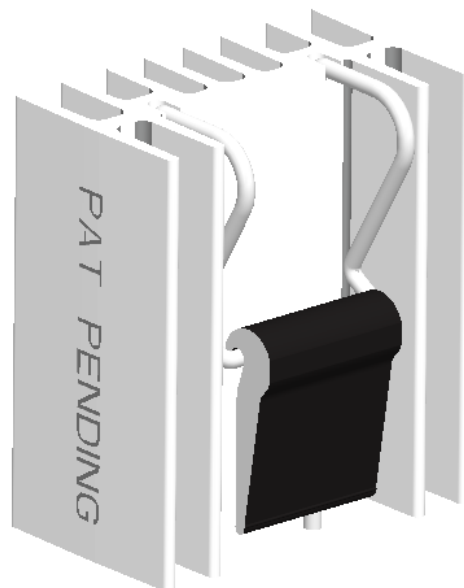
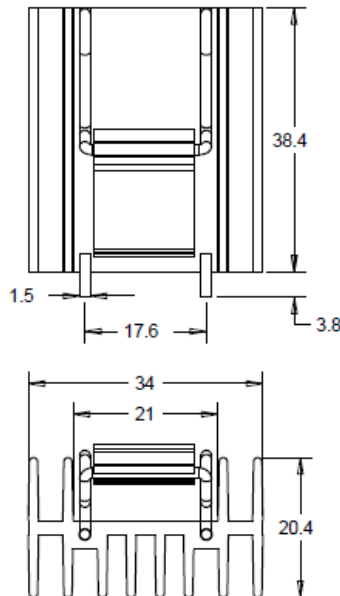
SMART HEATSINKS CERAMIC HEAT SINKS AND OTHERS

Smart Heatsinks®, Inc. introduces heat-sinks made from alumina and aluminum nitride for thermal management of high-power/ voltage electronics, photovoltaic, LED, power resistors and other applications.

With electrically insulating and thermally conducting, the ceramic heatsink is an effective combination of circuit board and heatsink for the reliable cooling of thermally sensitive components and circuits. The power chip dies can be directly bonded onto ceramic heat sink as a module substrate to eliminate the thermal barriers to quickly dissipate the generated heat. These sinks and insulators extend component life and enhance performance.



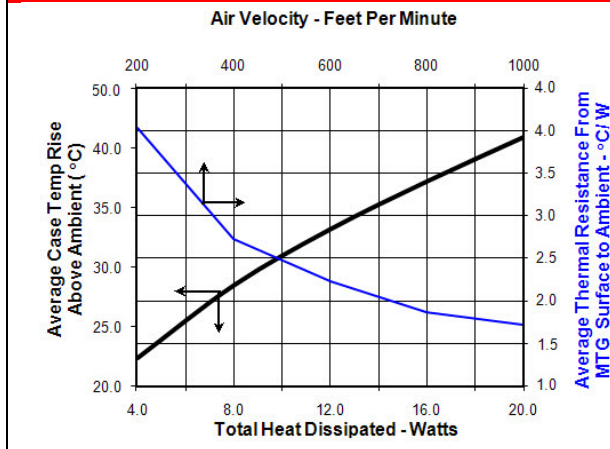
1. **Cam-Clip Heat Sink** - an innovative ceramic (Patent Pending) heat with unique design combines the tin plated solderable integral cam- spring clip with a molded aluminum oxide (Al_2O_3) or aluminum nitride (AIN) heat sink body to be mountable onto PCB directly with no other fasteners needed. Unlike any others, this type of heat sink provides ease of assembly and all-in-one solution (one part does all). It can be used with different package devises, such as TO-220, TO-247, TO-264 and TO-218 package, etc. series power devices with either natural or forced convention cooling.



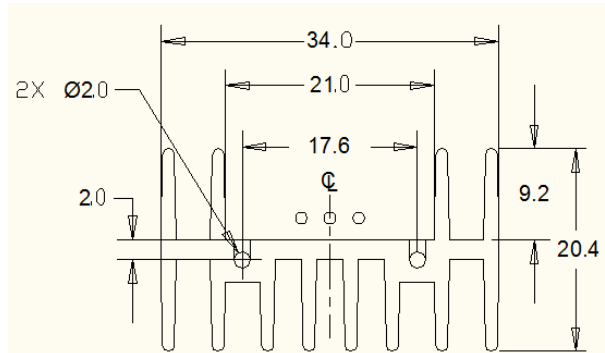
Material: 95% Al_2O_3 , Surface Area: 11,408mm², Weight: 22 g



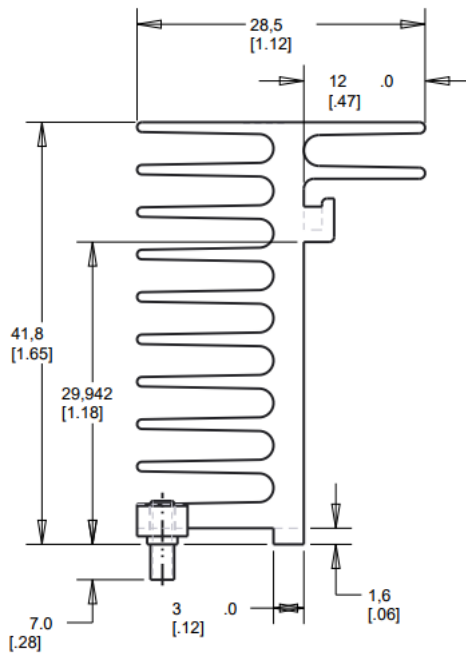
THERMAL PERFORMANCE



LAND PATTERN



2. Ceramic C series heat sink (Pat. Pending). This series offers flexible, electrical insulated and compact heat sink with universal cam clip system for TO-220, TO-247, TO-264 and SOT-227 devices. This powerful heat sink can be thru-hole soldered onto PCBs. It is the ideal type of heat sink for high **voltage** and small size (1U or 2U) electronic packaging with forced convection cooling



Material: 95% Al₂O₃, Surface Area: 22,666mm², Weight: 59.4 g

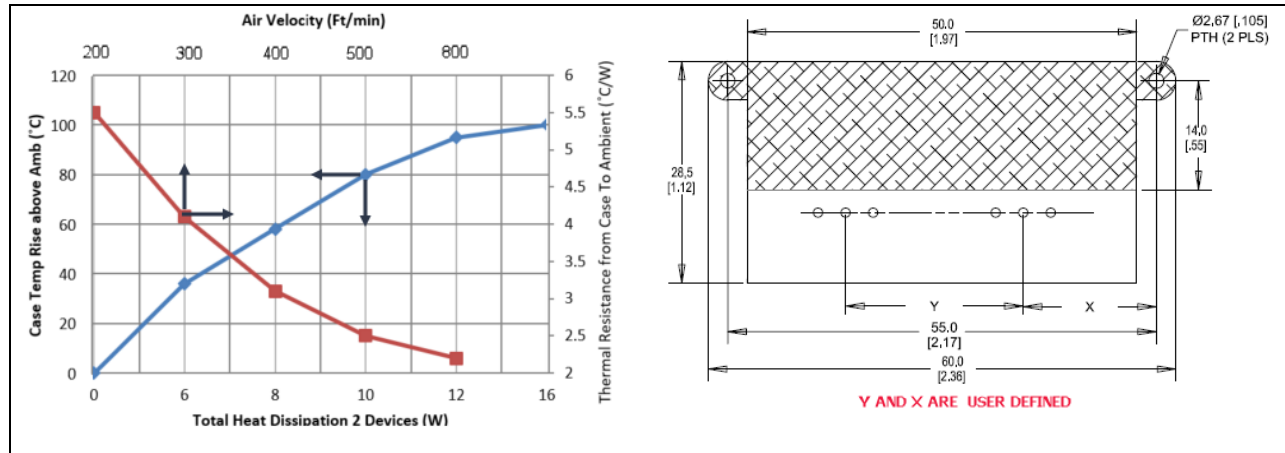
THERMAL PERFORMANCE

LAND PATTERN

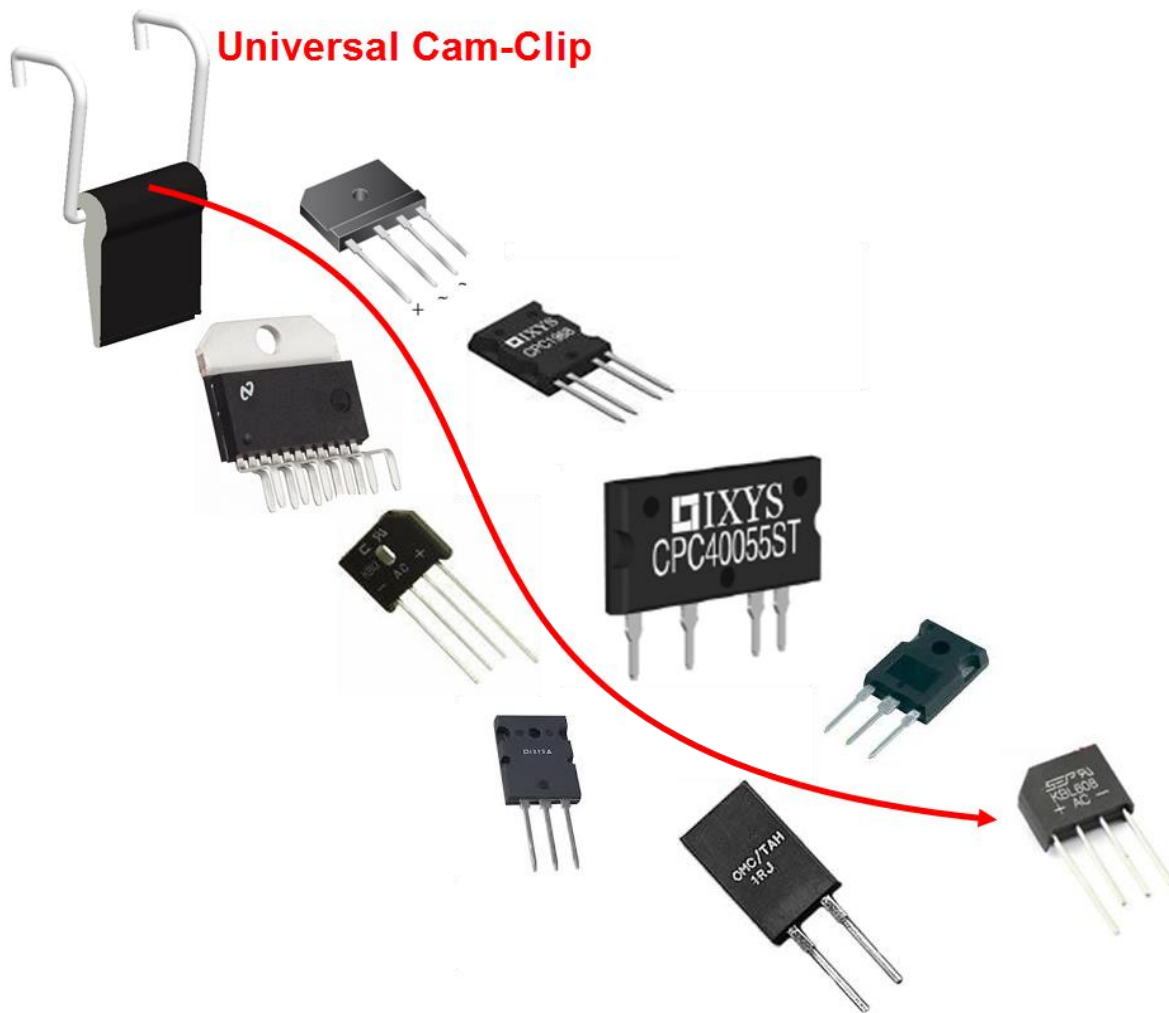


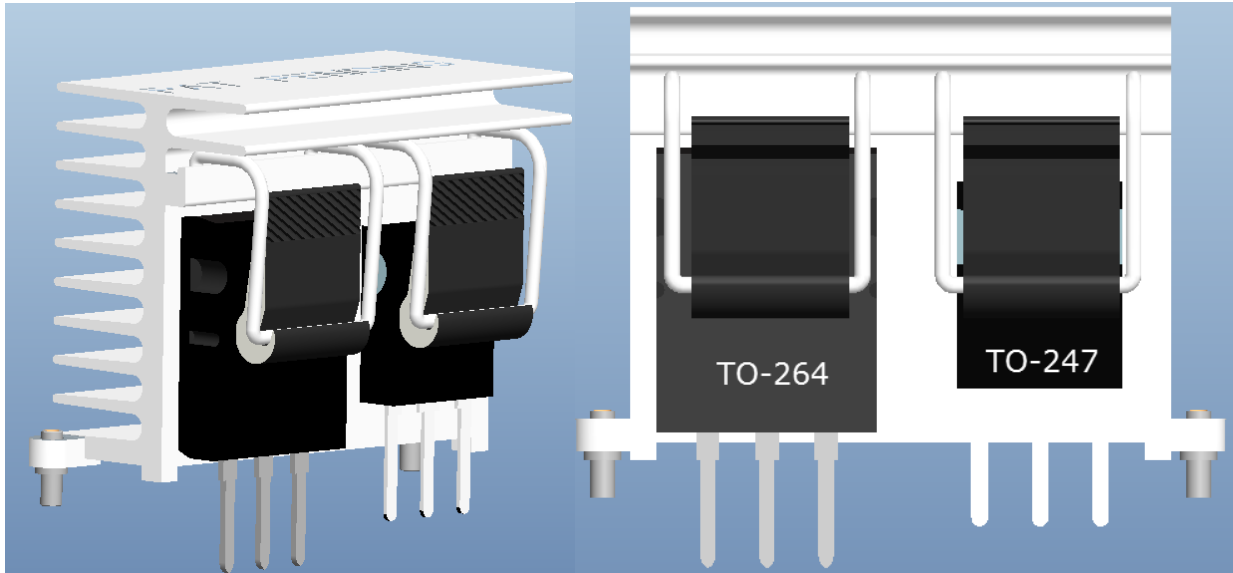
Smart Heatsinks
Unlike Any Others

SHS CERAMIC ALL-IN-ONE HEAT SINKS FOR TO-220, TO-247, TO-264 & OTHER CERAMIC PARTS

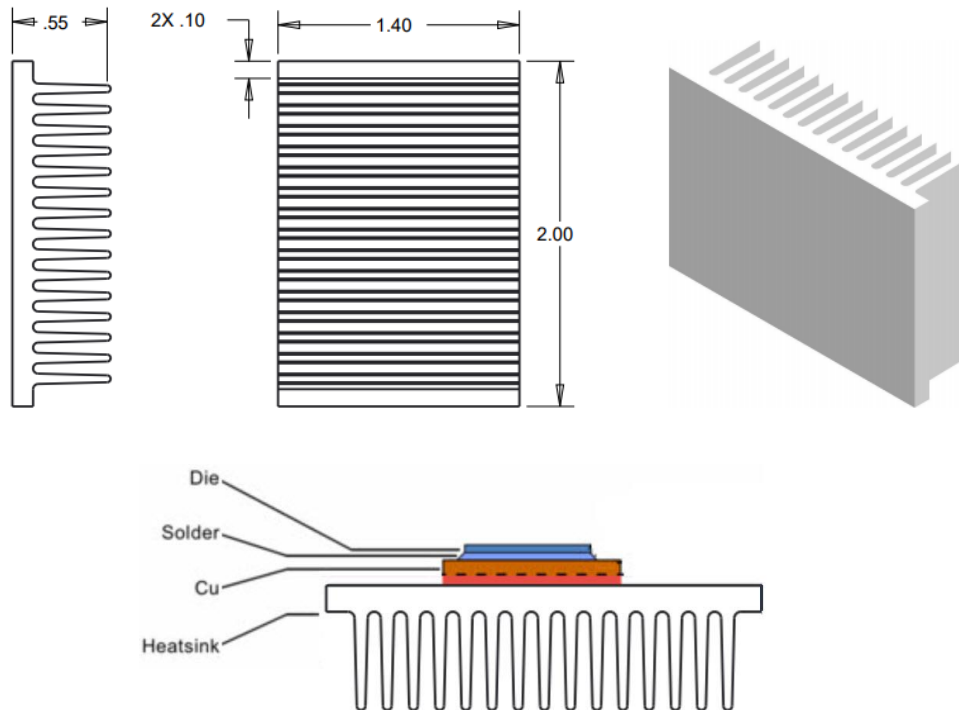


Use Universal Clip, One Clip does all





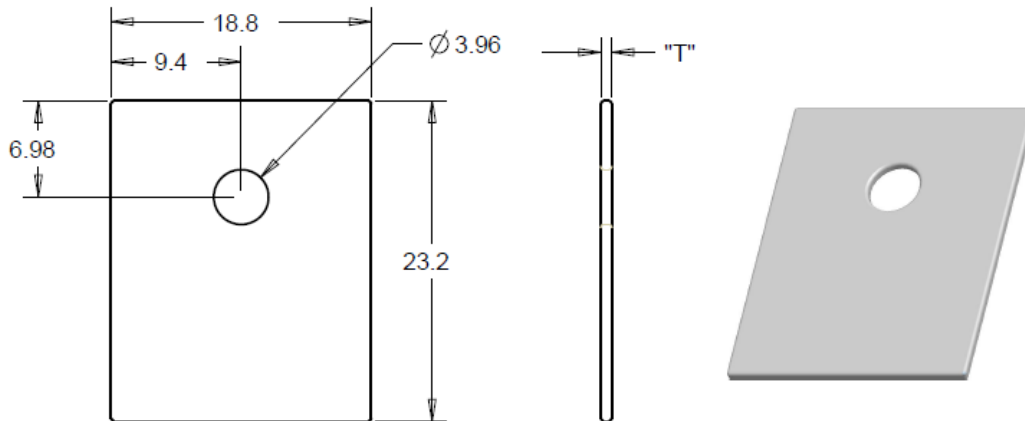
3. **Common Ceramic Heat Sink** – A rectangular or square shape ceramic heat sink as commonly seen in the extrusion heat sink provide the most common use in cooling. Besides it can be used as Chip-on-heat-sink on the metalized surface of the heat-sinks, and makes it possible to achieve an extremely compact design for the entire cooling system. Using ceramic as the material for the heat-sink ensures outstanding thermal conductivity and electrical insulation; the closer it is used to a source of heat, the greater the cooling advantage it offers.



Material: 95% Al₂O₃, Surface Area: 24.7 in² (15,925mm²), Weight: 50g



4. **Insulator Pads** - Aluminum oxide (95%) Insulating washers/pads have a dielectric strength of approximately 16.7 kvolts/mm. The thermal conductivity of aluminum oxide is 18 W/mK . Aluminum oxide has unique thermal conductivity qualities and features low loss factors at high frequencies. It has high compressive strengths, high volume resistivity, low thermal expansion and it resists radiation.



Note:

1. Thickness (T): 2.03mm +/- .25 or 0.8 +/- .15.
2. Hole diameter is +/- .13mm angularity is +/- 1°
3. flatness is .05mm TIR unless otherwise specified.
4. It is equivalent to AAVID Thermalloy 4180G Thermal Insulator for TO-218, TO-247 & TO-3P, etc