



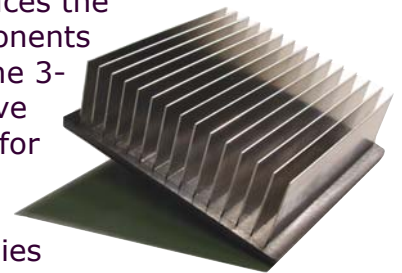
COOLPOLY® THERMALLY CONDUCTIVE PLASTICS

FOR FOLDED FIN HEAT SINKS

CoolPoly thermally conductive injection molding grade thermoplastics allow folded fin heat sinks designs with unique architectures and performance. The thermally conductive thermoplastics permit molding of a 3-dimensional base structure to conform to electronic layouts while transferring heat to efficient folded aluminum fins. The CoolPoly folded fin heat sinks can even incorporate a dielectric base material when required. 3-dimensional molding of the base reduces the dimensional tolerances required between heat generating components and the heat sink, thus reducing the total thermal resistance. The 3-dimensional base can also be molded from a thermally conductive elastomer providing sufficient compliance to eliminate the need for additional interface materials.

The molded base folded fin heat sink has significant cost advantages relative to the standard fin/base joining methodologies such as brazing or adhesive bonding.

Electronic lids and covers that must be electrically isolated normally need an additional coating or dielectric layer that further increases thermal resistance. The CoolPoly dielectric base provides good electrical isolation and heat conduction.



Molded folded fin heat sinks offer:

- IMPROVED HEAT TRANSFER
- REDUCED COST
- 3-DIMENSIONAL BASE DESIGN CONFORMING TO ELECTRONIC ARCHITECTURE
- DIELECTRIC HEAT SINK BASE
- AUTOMATED FIN/BASE JOINING
- LOW AIR FLOW IMPEDENCE FIN DESIGN

The largest thermal resistance in electronic systems is often the gap between component and heat sink. The gap is especially significant when designing for multi-chip solutions. The 3-dimensional molded base minimizes the gap to each heat generating source. Unlike a 2-dimensional flat base a molded base can additionally encompass the sides of heat generating components further enhancing the heat spreading and heat sinking performance. Folded fin structures are particularly attractive in limited air flow environments due to their minimal thickness and fin efficiency.

Molded folded fin heat sinks are ideal thermal management solutions for multi-chip modules, servers, power converters and other thermal management solutions.

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