

## THERMATTACH™ T512

### Thermally Conductive Tape for Metal/Ceramic Packages

#### DESCRIPTION

Thermattach T512 is a double-sided adhesive tape designed to provide an effective thermal interface and heat sink attachment method for ceramic or metal IC packages. Thermattach T512 consists of a thermally conductive high bond strength acrylic pressure sensitive adhesive with an aluminum mesh carrier layer. The mesh carrier allows the tape to conform to curved surfaces of IC packages and heat sinks. The conformability of T512 allows it to capture the maximum contact area of both the IC package and the heat sink and provide a high adhesive strength attachment method for heat sinks.



Typical Properties	T512		Test Method
Carrier	Expanded Al mesh		---
Color	Silver		visual
Thickness, inches (mm)	0.009 (0.23)		ASTM D374
Thermal impedance, °C-in <sup>2</sup> /watt @ 1psi	0.85		ASTM D5470
Torque Adhesion @25°C	1h, 25°C dwell	15 in-lbs.	---
---	168h, 60°C dwell	>25 in-lbs.	---
Lap Shear, Al - Al	24 psi		ASTM D1002

**APPLICATION INSTRUCTIONS:**

**Step 1:**

Ensure the bonding surfaces are clean and free from dust, oil, etc.,

**Step 2:**

Remove the liner from one side of the tape and apply to the center of the heat sink and smooth over the entire area using moderate pressure.

**Step 3:**

Remove the liner from the other side of the tape, center the heat sink over the component and apply using conditions shown below:

Pressure	Temp.	Time
10 psi	22°C	15 seconds
30 psi	22°C	5 seconds
10 psi	50°C	5 seconds
30 psi	50°C	3 seconds

Contact Chomerics' Application Engineering for additional information.

**Note:** Increasing any of the application variables (pressure, temperature, or time) can improve the adhesion results. Elevated temperatures can be achieved by exposing the heat sinks to conventional hot air/heat guns prior to application. Approximately 70% of the ultimate adhesive bond strength is achieved with the initial application. Ultimate adhesive strength is achieved within 36 hours. However, the next manufacturing step can occur immediately following the initial application.

**REMOVAL INSTRUCTIONS:**

**Step 1:**

Carefully insert a blade edge into the bond line at a corner between the heat sink and the component. The penetration need not be very deep.

**Step 2:**

Remove the blade and insert a thin metal spatula into the wedge. Slowly twist the spatula blade so that it exerts a slight upward pressure.

**Step 3:**

Continue the twisting motion and upward force until the two surfaces are separated.

**Step 4:**

Remove and discard the used T512 tape. Any residual adhesive on the component surface can be removed using a solvent.

**Step 5:**

Allow the solvent-cleaned components to dry completely before reapplying a new piece of T512 tape.