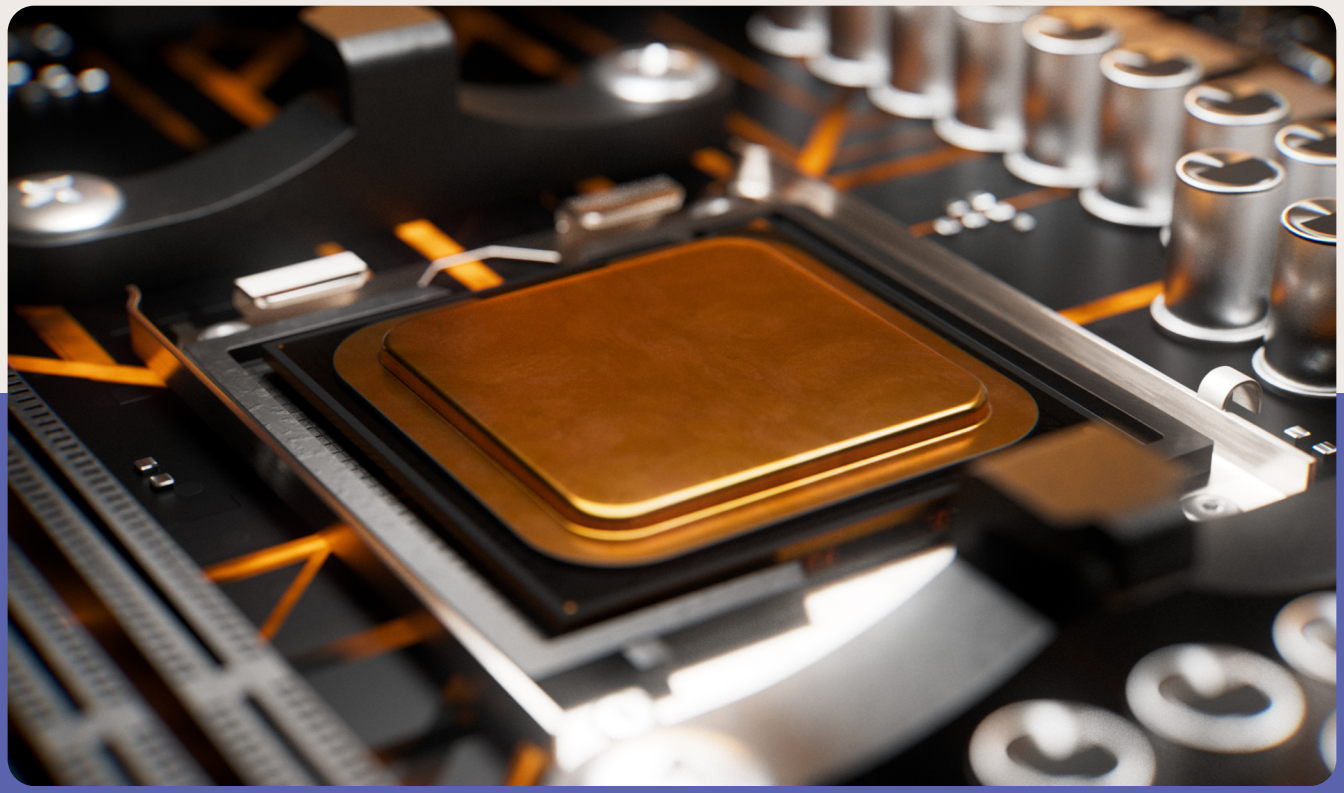
Solstice

ADVANCED HEAT SPREADER SOLUTIONS FOR NEXT-GENERATION COMPUTING



As AI, high-performance computing, and advanced semiconductor technologies continue to advance, thermal management has become a critical enabler of performance, reliability, and efficiency.

Every application presents unique thermal and mechanical challenges. That's why our engineering team works closely with customers to develop customized solutions tailored to their specific requirements. Whether refining an existing design or creating a new one from the ground up, Solstice provides end-to-end engineering support and heat spreaders built to exact specifications.

ADVANCED INTEGRATED HEAT SPREADER OFFERINGS

Solstice Advanced Materials delivers precision engineered Integrated Heat Spreaders (IHS) that enable higher performance, improved reliability, and optimized thermal management for the world's most demanding computing platforms. From prototype development through high volume production, we help customers accelerate time to market while meeting stringent thermal and dimensional requirements.

1. FINITE ELEMENT METHOD (FEM) SIMULATION

To accelerate development and minimize risk, Solstice integrates simulation early in the design process. Simulation helps:

Reduce design iterations and development time

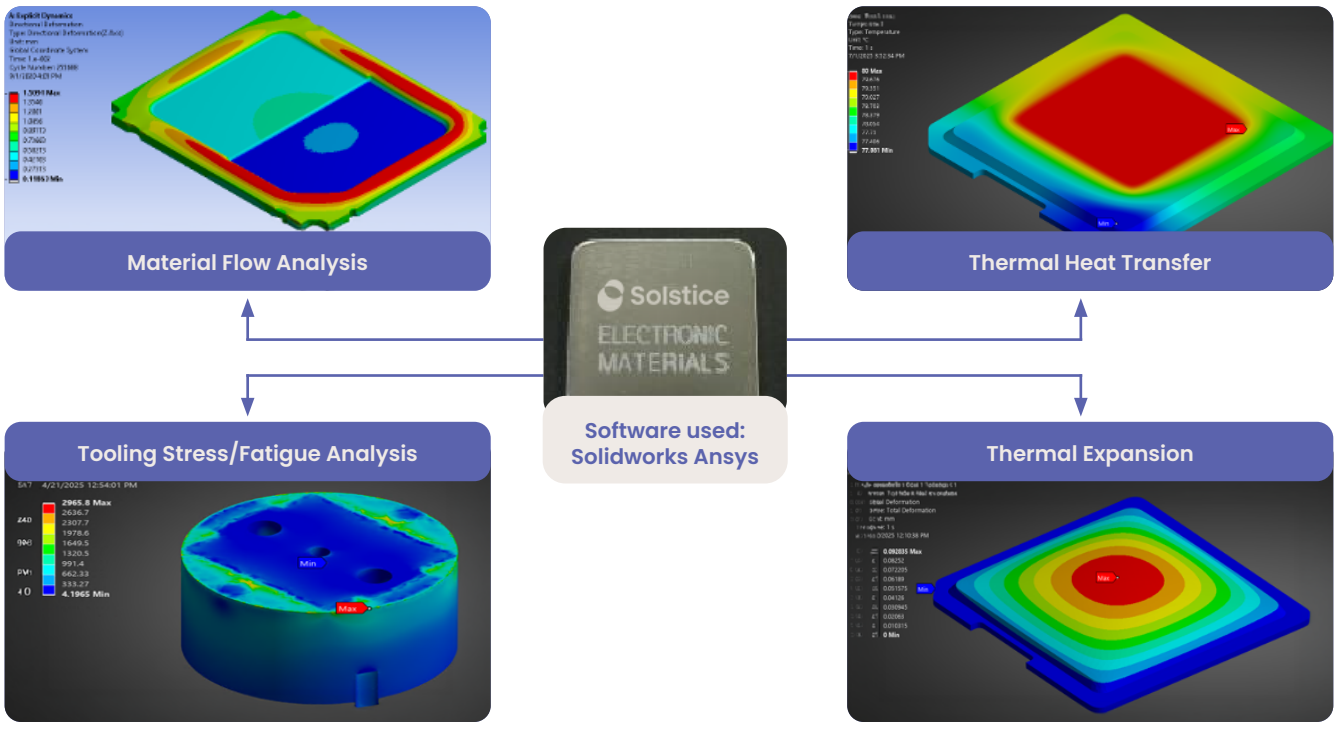
Optimize thermal performance before tooling investment

Improve manufacturability and yield

Validate reliability under operating conditions

SOLSTICE OFFERS:

- **Thermal heat transfer and thermal expansion analysis**
- **Material flow and forming simulations for manufacturability optimization**
- **Structural, stress, deformation, and fatigue analysis**
- **Tooling validation and performance optimization before production**



2. STAMPING

Our advanced transfer and progressive stamping technologies enable cost-effective manufacturing of complex heat spreader designs across a broad range of materials and form factors.

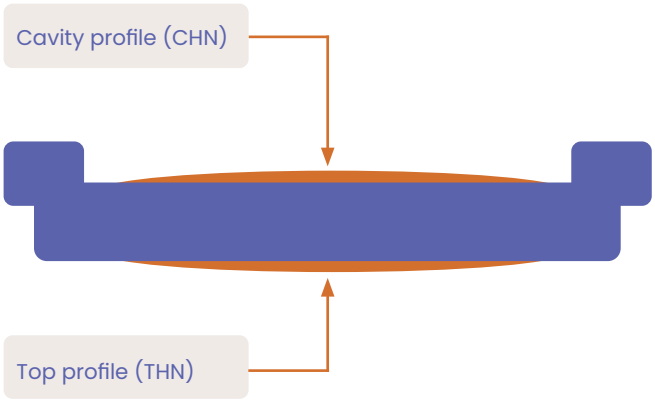
- **Stamping presses ranging** from 100 to 1200 tons and for Heat Spreaders' size of 30mm x 30mm up to 130mm x 130mm
- **Expertise in copper, aluminum, stainless steel, and iron-based alloys**
- **Complex geometries** including multi-cavity, winged, flanged, hat-shaped, and hybrid designs
- Secondary operations such as machining, coining, trimming, shaving, and forging
- **Rapid prototyping and scalable high-volume production**



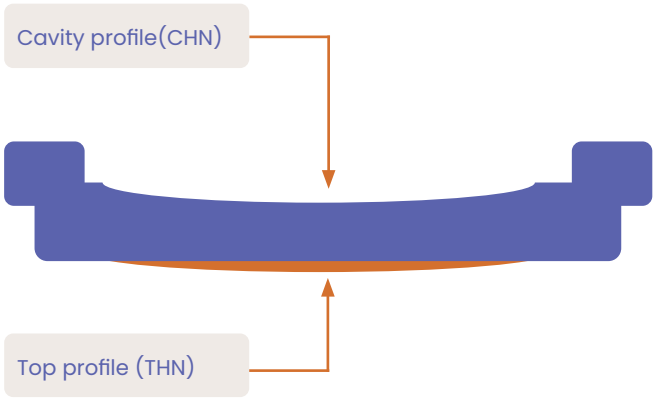
PRECISION DIMENSIONAL CONTROL

Semiconductor packages require exceptional dimensional accuracy. Solstice delivers:

- **Advanced shape control capabilities ensure precise geometry, flatness, and profile consistency,** helping improve package assembly, thermal interface performance, and overall product reliability.
- **Statistical process control with Cp, Cpk, Pp, and Ppk validation**
- **Consistent adherence to customer design intent and reliability requirements**



Both top and cavity profile are convex in shape



Cavity profile concave in shape and top profile convex in shape

3. PLATING

Solstice provides a comprehensive range of surface finishing solutions designed to enhance performance, reliability, and corrosion resistance.

Nickel plating with semi-bright and dull finish options

Selective and continuous gold spot plating using high-purity 24K gold

Additional finishes including **black oxide, anodizing, and passivation**

High-speed continuous plating lines for repeatable, high-volume production

Controlled coating thickness, surface roughness, gloss, and brightness

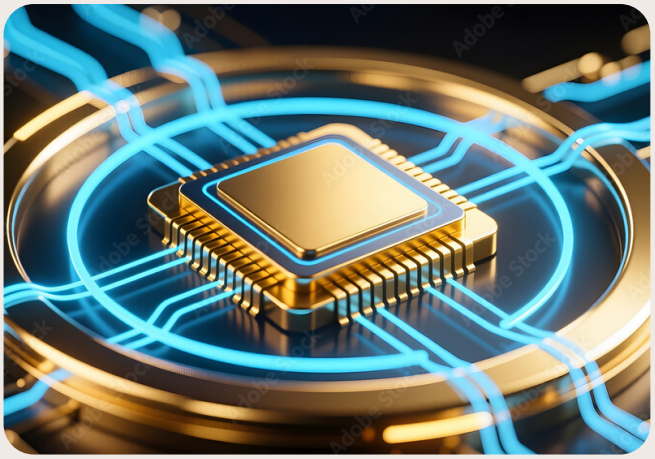
WORLD CLASS METROLOGY

- **Coordinate Measuring Machine (CMM)**
- **Optical Gauge Products (OGP)** non-contact measurement
- **Zygo white light interferometry and 3D surface scanning**
- **XRF coating thickness measurement and AOI inspection systems**
- **SO-aligned quality systems focused on continuous improvement**

ADVANCING INNOVATION TOGETHER

Solstice Advanced Materials combines advanced engineering, precision manufacturing, and rigorous quality control to deliver heat spreader solutions that accelerate innovation and improve reliability.

Partner with Solstice Advanced Materials to transform thermal challenges into reliable, high-performance solutions.



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