

# Titanium Ultra-Thin Vapor Chambers

## TITANIUM ULTRA-THIN VAPOR CHAMBERS

Titanium Vapor Chambers utilize passive two-phase heat transfer to conduct heat between 10 to 40 times more than solid copper. Two-phase heat transfer helps move and spread heat without the use of any active components like fans or pumps, making them extremely reliable thermal management solutions.

The mechanical properties of titanium allow for thinner vapor chamber construction compared to copper. Switching to Titanium Vapor Chambers minimizes material usage, which can reduce overall product weight and cost.

With increased strength over traditional copper components, Titanium Vapor Chambers enable product designers to combine mechanical and structural functions into this single thermal management solution.

Leverage the reliable thermal and mechanical benefits of Titanium Ultra-Thin Vapor Chambers in applications where space and weight are at a premium, such as mobile and consumer electronic products as well as eMobility applications.

## ORDERING INFORMATION

Contact your Boyd representative for more information or contact us at [www.boydcorp.com/boyd-contact](http://www.boydcorp.com/boyd-contact)

Boyd offers a wide range of ultra-light, high conduction technologies in addition to ultra-thin vapor chambers, including graphite heat spreaders, thermal interface materials, and flexible thermal straps in order to meet application requirements for cost effective, high performance products.

## FEATURES & BENEFITS

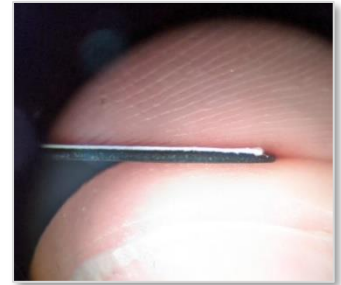
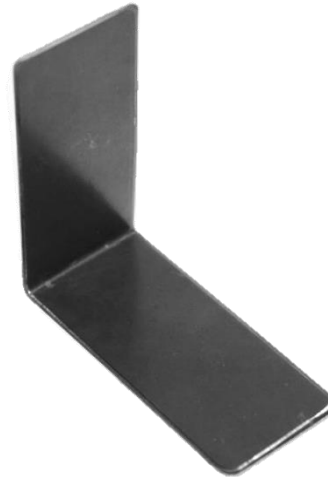
### Features and Benefits

**Enables innovation by allowing higher power and faster chipset speeds at less weight and volume consumption**

**Improved design flexibility with bends, mounting holes and easy integration with other functions**

**Increased reliability with cooler touch temperatures and electronic operating temperatures. Passes long term operation, thermal cycling, and freeze-thaw testing**

**Reduces total cost of ownership with integrated thermal management, EMI Shielding, and mechanical/structural support.**



*Printer Paper (White) and TiVC (black) between fingers under magnification*



*Custom Mounting Holes, Bends, and Geometries possible*

## TECHNOLOGY DETAILS

Property	Details
Material	Titanium
Thickness Range	0.3 – 2.0 mm
Area Range	3 cm x 3 cm – 30 cm x 30 cm
Power Range	0.5 W – 50 W
Effective Thermal Conductivity Range	2000 - 45000 W/mK