ABSTRACT OF THE DISCLOSURE

THERMALLY ENHANCED SEMICONDUCTOR PACKAGE AND METHOD OF PRODUCING THE SAME

This invention includes a heat sink structure for use in a semiconductor package that includes a ring structure with down sets and a heat sink connected to the ring structure. The down sets can be slanted or V-shaped. The invention also includes a method of manufacturing a semiconductor package that includes inserting a substrate with an attached semiconductor chip in a first mold portion, placing a heat sink structure on top of a portion of the substrate, placing a mold release film onto a second mold portion, clamping a second mold portion onto a portion of the heat sink structure, injecting an encapsulant into a mold cavity, wherein the encapsulant surrounds portions of the substrate, semiconductor chip and heat sink structure, curing the encapsulant, whereby the heat sink structure adheres to the encapsulant and singulating the encapsulated assembly to form a semiconductor package.

Figure 10