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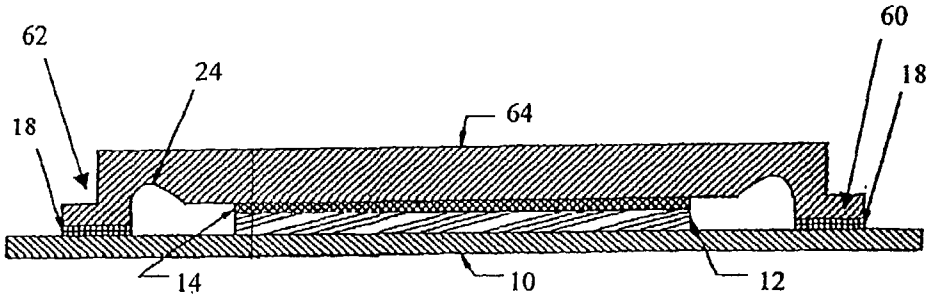
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(54) Title: INTEGRATED HEAT SPREADER LID



(57) Abstract: A heat spreader lid includes an outer periphery region having a lip for bonding to an underlying substrate board, a center region, and one or more strain isolation regions. The strain isolation regions are located between the center region and the outer periphery region and may comprise a number of slots cut partially or completely through the lid in a pattern surrounding or partially surrounding the center region. The strain isolation regions provide isolation of strain and relief of stress due to thermal expansion of the lid despite constraint at its periphery by the bonded lip, resulting in less thermally-induced warping of the center region, less thermally-induced stress on the bond between the lip and the substrate board, and/or less thermally-induced deflection of the substrate board. The reduced warping, stress, and/or deflection increases the reliability of the system by reducing the propensity for delamination or separation in the interface between the lid and the die, and/or by reducing the chance of structural failure in the bond between the lid and the substrate board.

WO 2004/109759 A3