ABSTRACT

SUPER THIN/SUPER THERMAL BALL GRID ARRAY PACKAGE

A new method and package is provided for the packaging of semiconductor devices. The method and package starts with a semiconductor substrate, the substrate is pre-baked. In the first embodiment of the invention, a copper foil is attached to the substrate, in the second embodiment of the invention a adhesive film is attached to the substrate. Processing then continues by attaching the die to the copper foil under the first embodiment of the invention and to the film under the second embodiment of the invention. After this the processing continues identically for the two embodiments of the invention with steps of curing, plasma cleaning, wire bonding, optical inspection, plasma cleaning and providing a molding around the die and the wires connected to the die. For the second embodiment of the invention, the film is now detached and replaced with a copper foil. After this the processing for two embodiments of the invention again commonly proceeds with providing a black ink topping, performing an ink and post mold cure, attaching solder balls to the substrate, providing laser markings on the black ink topping, singulation of the die, inspection and testing after which the devices are packed and shipped as completed devices.

(FIGURE 4 IS SUGGESTED FOR PUBLICATION)