ABSTRACT

METHODS OF FORMING DROP-IN HEAT SPREADER PLASTIC BALL GRID ARRAY (PBGA) PACKAGES

A method of fabricating a die-up laminated PBGA package, including the following steps. A mold chase for a PBGA package is provided. The mold chase has an open side with and exposed bottom wall and side walls, and a bottom side. The mold chase is positioned open side up. A heat spreader is dropped into the mold chase open side. The heat spreader has a lower protruding section, and lateral peripheral flanges with gaps therebetween. The protruding section contacts a portion of the bottom wall of the mold chase and the flanges contact a portion of the exposed side walls of the mold chase to thereby secure the heat spreader within the mold chase. A substrate, having a die affixed thereto in a die down position, is fixedly placed over the mold chase. The die being positioned within the space above the protruding section of the heat spreader. A flowable molding compound is applied within the space above the heat spreader and within the space 26' below the heater spreader flanges 49, 59, completely filling these spaces to form a die-up laminated PBGA package. The flowable molding compound 30 is also flowable through the gaps.

FIGURE 2 IS SUGGESTED FOR PUBLICATION