

PLASTIC PIN GRID ARRAY PACKAGE

ABSTRACT OF THE DISCLOSURE

A plastic pin support of a plastic PGA package is used to hold conductor pins in alignment, for electrical contact, with a printed circuit board and a socket. The printed circuit board is mounted on the plastic pin support which is electrically connected to respective conductor pins of the plastic pin support. A first adhesive layer, containing silver fillers, connects a silicon chip housed in the plastic PGA package to a heat sink and conducts heat from the silicon chip to the heat sink. The first adhesive layer also absorbs thermal expansion variations between the silicon chip and the heat sink during thermal cycles. A second adhesive layer connects the printed circuit board to the heat sink. Separation between the silicon chip and the printed circuit board is provided by a gap between the silicon chip and the printed circuit board which is filled with a protection layer, such as epoxy, to maintain separation between the silicon chip, the printed circuit board, and to protect the active surface of the silicon chip. The heat sink made of formable metal such as anodized Aluminum is formed around the silicon chip, the printed circuit board, and the plastic pin support providing heat dissipation and protection to the plastic pin support, the printed circuit board and the silicon chip.

FIGURE 2