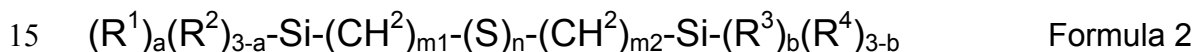


THERMALLY AND ELECTRICALLY CONDUCTIVE AND
ADHESIVE COMPOSITION FOR SEMICONDUCTOR PACKAGING

5 ABSTRACT

A heat and electrically conductive adhesive composition for die attach comprises of a filler comprising substantially of silver (Ag) aggregate, in an amount of 70 to 90% by weight of the adhesive composition; an epoxy resin in
10 liquid form comprising at least two epoxy groups; a curing or hardening agent; and a silane coupling agent comprising at least a primary mercapto group. The silane coupling agent may comprise of sulfidosilane, preferably bis-sulfur silane, and may generally be represented by Formula 2 below:



wherein:

- R^1 and R^3 are each an alkoxyl group with 1 to 10 carbon atoms, wherein R_1 and R_3 may or may not be the same;
- 20 - R^2 and R^4 are each an alkyl group with 1 to 10 carbon atoms, wherein R_2 and R_4 may or may not be the same;
- and b are integers of 1 to 3;
- n is an integer of 2 to 4; and
- m_1 and m_2 are integers of 1 to 5.