

DIE-ATTACH COMPOSITIONS

ABSTRACT

In accordance with the present invention, there is provided a novel composition for attaching a semiconductor device to a substrate. The invention composition comprises liquid polycyanate ester monomer vehicle, electrically conductive filler, and a curing catalyst, preferably in the substantial absence of alkylphenol. The recognition that attach paste compositions are effective without the addition of alkylphenol has the benefit of reducing the cost of preparation, as well as the ease of preparation of die-attach pastes containing electrically conductive filler and polycyanate ester monomer. The incorporation of alkylphenol into die-attach paste compositions has been found to be unnecessary, due to the presence of catalytically active species on the surface of filler flake employed in the preparation of such pastes. Indeed, alkylphenols are best eliminated from die-attach paste compositions because alkylphenols are acidic species that do not become incorporated into the final polymerized matrix of the cured attach paste.