

Potential enhancement in mechanical and physical properties of Sn-Ag-Cu lead free solder as a replacement material for Sn-Pb in electronic packaging

ABSTRACT

Sn-Ag-Cu lead free solder is a well-known studied material replacing the Sn-Pb solder which is prohibited due to the toxicity of lead. Even though it is proven to have good reliability and mechanical properties, Sn-Ag-Cu is lacking in terms of melting point and wettability. Previously, research has been focused on further enhancement of Sn-Ag-Cu solder by addition of alloying elements, nanoparticles and others. In this paper, a critical review of the work on the enhancement of the mechanical and physical properties of Sn-Ag-Cu solder using this method for its application in electronic packaging is explored.

Keyword: Lead-free solders; Sn-Ag-Cu; Mechanical properties; Physical properties