

Void Distributions in Sn-3.0Ag-0.5Cu (SAC305) Composite Lead Free Solder Subjected to Thermal Ageing Using Acoustic Micro Imaging Technique

Abstract

The formations of the voids in SAC305 lead free solder and SAC305 with additions of kaolin geopolymer ceramics were studied. The composite solders were fabricated by using powder metallurgy with microwave sintering method. The samples were sandwiched between two copper substrates and reflowed in a reflow oven and aged at 125°C for 0 and 7 days. The acoustic micro imaging was used to analyse the distributions of voids in the solder joints of SAC305 and SAC305 with additions of kaolin geopolymer ceramics. Results shows that, the void in SAC305 are larger in size and numbers as compared to SAC305 with additions of kaolin geopolymer ceramics for both reflowed and aged conditions.