

# The preliminary study of the addition zinc in tin-copper lead free solder

## Abstract

Sn-0.7Cu lead free solder has become an alternative material to replace Sn-Pb solder. However, it has the weakness of high melting point and poor corrosion behavior. Through the study, Sn-0.7-xZn microstructure and phase changes were studied through scanning electron microscope (SEM) and X-ray diffraction (XRD). SEM result shows microstructure Cu<sub>6</sub>Sn<sub>5</sub> is precipitated with rod like shape while CuZn is shown in bump oval shape whereas compounds that presented are Cu<sub>6</sub>Sn<sub>5</sub> and Cu<sub>5</sub>Zn<sub>8</sub> as shown in the XRD analysis result.

## Keywords

Corrosion; Lead free solder; Tin-copper; Zinc