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# Effect of $Ag_3Sn$ nanoparticles and temperature on $Cu_6Sn_5$ IMC growth in Sn-xAg/Cu solder joints

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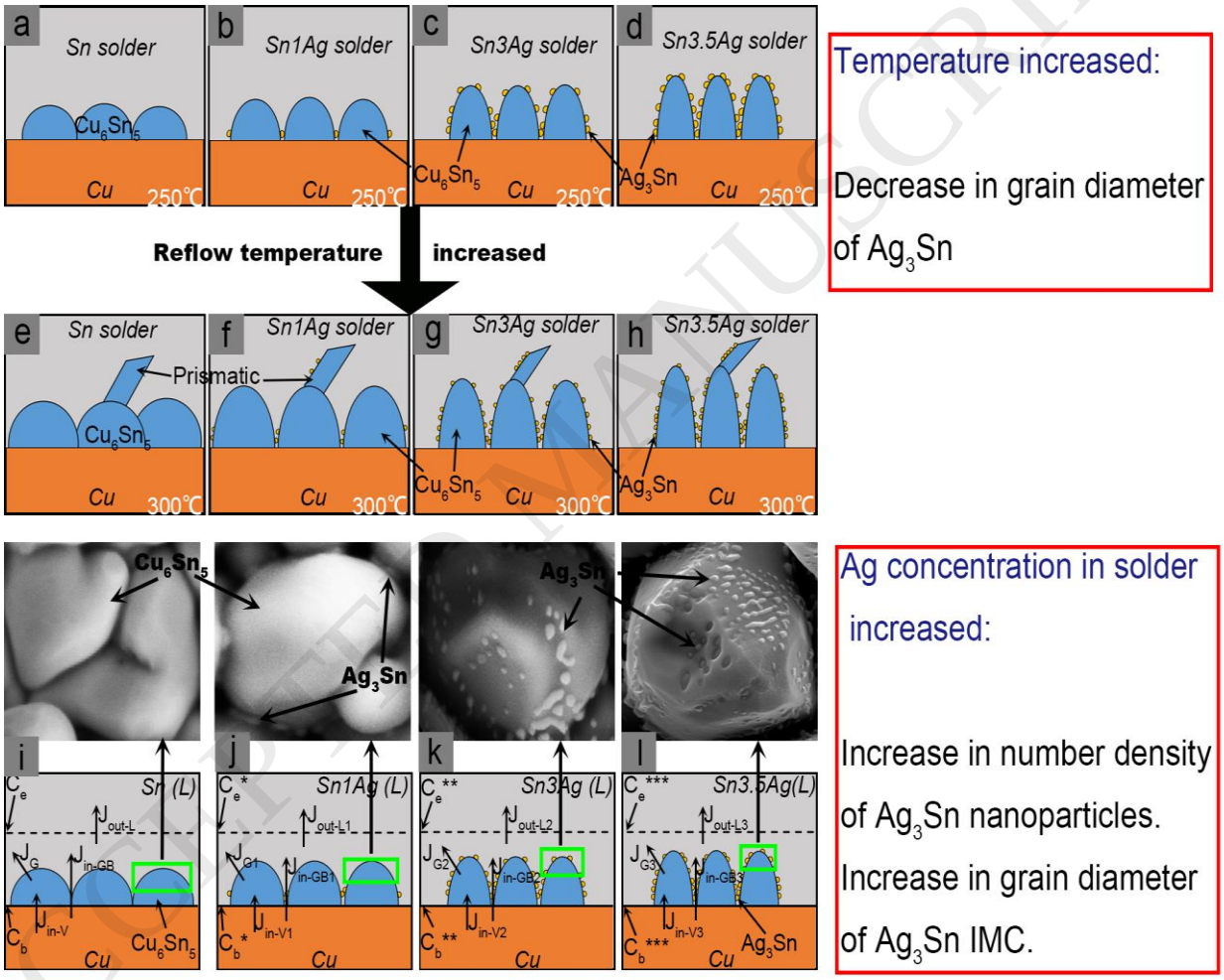
Graphical abstract




Highlights

- The number density of Ag3Sn grains precipitated upon Cu6Sn5, increases with Ag content and reflow temperature.
- An increase of Ag content in solder whereas a decrease in reflow temperature causes the increase of the grain diameter of Ag3Sn nanoparticles.
- The blockading effect of Ag3Sn particles on Cu6Sn5 IMC growth is more severe in Sn-3Ag and Sn-3.5Ag alloys.