

Study of Cu/SnAg system interactions in the context of TLPB assemblies for power electronics devices

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Abstract: In the laboratory of Components and Circuits for Energy, GaN power devices are developed. They can be used in applications such as inverters for electric cars or photovoltaic systems. New developments of interconnection and assembly are required to integrate the power devices in modules to meet the requirements of high temperature (200 to 250°C) and high frequency. In a first stage, the PhD student will have to select the bonding materials, set up and characterize the die attach process. He will also work on a comprehensive study of assembly and thermomechanical constraints. The second stage will focus on the implementation of this technology in the assembly process of an innovative converter architecture.