

低線膨張銅めっきのメリット
What Happens To Low TCE Copper With Annealing

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Since the Copper resistivity is second lowest next to the Silver, the Copper electrodeposits have been very intensively used in the wiring for the semiconductor and the printed circuit board(PCB). The Copper problem is the thermal coefficient of expansion(TCE). The Silicon is $2 \times 10^{-6} (1/K)$ and the copper is 18×10^{-6} . If the composite of the Silicon and the Copper(semiconductor and PCB), warpage, protrusion or delamination occurs. Warpage, protrusion or delamination resolution are reported for the cases of Through Silicon Via(TSV), Glass interposer, Insulated Gate Bipolar Transistor(IGBT), Coreless Printed Circuit board(PCB) and IGBT packaging