

The Conductivity Characteristics of the Via Holes in Multi-Layer PCB

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Multi-layer PCBs(MLB) have the merits of greatly increased wiring density with the via holes provided for the electrical connectivity between layers. Via holes are formed by drilling, interior plating, and PSR paste filling. In this study, the electric conductivity characteristics of the via holes were investigated by omitting the plating process which is liable to form poor quality via holes and replacing the PSR paste which has simple function of filling with a conductive paste. The MLB used in the experiment is 4-layers structured with nine 0.5mm diameter via holes per 1cm² area. The conductive paste was TSP-2000TH01(Dayo Ink) which has dispersed silver particles. The via holes were filled with the conductive paste, dried at 80°C for 30 minutes, cured at 150°C and cooled down to room temperature. The on-resistance of each via hole was measured at room temperature, and the electrical and visual characteristics of each via hole were investigate after PCT and thermal impact.