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Liquid Wiring Technology by Ink-Jet System Using Metal Nano Particles

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Abstract

The recent R&D trends of ink-jet printing using metal nano particles to the direct circuit patterning are reported. NanoPaste® was used as a conductive ink, which shows the excellent stability and low temperature sintering property based on "quantum size effect". Optimization of stage heating, surface treatment on substrates and design of jetting algorithm are very important to obtain good printing quality. We have attained the patterning resolution with 70µm line/space by using commercial ink-jet system. "Super Ink-Jet Technology" is also successfully applied to the fine patterning with several micrometers rule. Au NanoPaste® shows the good performance equivalent to the conventional plated layer for Au wire bonding.

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