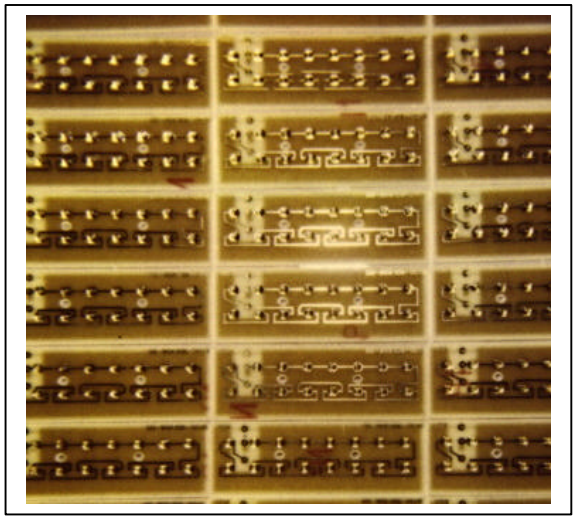

Chip-On-Board (COB) is a form of direct die attach which minimizes cost and size in many applications. The unpackaged dice are mounted onto a prepared PC board, wirebonded, and coated for protection. COB can also be used in conjunction with standard SMT devices.

Shown above is a set of optoelectronic micro PC boards which combined soldered surface mount components and bare dice which are attached and directly bonded to the PC board. An optically clear protective layer was added to each die in a two-step process which assured a good mechanical and optical result.

"Smart Cards", PCMCIA cards, and many other applications can make use of this low-cost microelectronic assembly technique. By eliminating the hybrid package, size, cost, weight, and complexity are greatly reduced.

This assembly method can be used with various substrate materials. Depending on design requirements, FR-4, PTFE, alumina, and glass are commonly used, and more exotic materials can also be considered. We have a choice of several wirebonding methods at our disposal, including aluminum ultrasonic wirebonding, gold wedge bonding, gold ball bonding, and gold ribbon bonding. We can also provide "Flip-Chip" direct die attach, in which the semiconductor device is mounted, inverted, onto an appropriately-arranged set of conductive pads on the substrate or PCB.

Impellimax can provide a turn-key assembly including PC board layout, fabrication, COB, and electrical testing in coordination with your engineering requirements. Alternatively, we can assemble your COB and special assemblies on a build-to-print basis, with or without customer supplied materials.

We can provide COB assemblies with pins, tinned wires, or ball-grid-array (BGA). Gold-ribbon flying leads are another possibility where space is at a premium. Contact the factory for details and design assistance.

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