

Chip-on-Board Technology:
Bridging the Gap Between Innovation and Production

At some point the technological drive toward miniaturisation must give way to the very real considerations of cost and schedule control. That's when it pays to have an interconnect partner like Micross Components, with the electronics expertise needed to offer alternatives to custom packaging such as Chip-on-Board, or COB, which can help bridge the gap between innovation and production.

COB refers to the mounting or bonding of a microchip or die directly onto a printed circuit board, or PCB, eliminating the need for and the additional costs associated with packaging. COB assembly is a simplified process, generally consisting of three basic steps: 1) attaching or bonding the chip to a PCB; (2) wirebonding the electrical connections between the chip and the board; and (3) encapsulating the die and wire, typically with a glob top compound, to protect the device from mechanical damage and contaminants. For sensor applications, where the surface of the die needs to remain free, only the wires are coated for protection. If the die has two active surfaces, then solder bumps can be used instead of bond wires.

In either case, whether the die is wire bonded or bumped, COB gives a low cost entry for prototyping and first production runs because NRE's are substantially lower than conventional molded packaging.

Notwithstanding its relative simplicity, COB has the flexibility to support complex, multi-chip systems and offers a number of advantages to manufacturers looking to provide practical innovations to the marketplace, including:

- Space and weight savings
- Cost savings
- Shorter lead times
- Improved reliability because of better heat distribution
- Enhanced performance because of shorter interconnect paths
- Increased protection against reverse engineering

The potential application for COB spans multiple industries, from hi-reliability sectors, such as military and medical, to energy, automotive and communications. Regardless of the end product, the key to success with COB devices is in choosing an interconnect partner that has extensive knowledge of the chip market, as well as proven capabilities and expertise in die and wafer processing, chip assembly and bonding applications. Micross meets all these criteria and more.

For additional information on COB and other packaging alternatives, please contact the sales representative listed below or visit us online at www.micross.com.

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About Micross Components: Micross Components is a leading global provider of specialty electronic solutions for defense, space, medical, and demanding industrial applications. Operating as a single

source for high-reliability and state-of-the-art electronics, Micross' offerings range from bare die and wafer processing to advanced and custom packaging to component modifications and related interconnect offerings. With a 30+ year heritage, Micross possesses the design, manufacturing, and logistics expertise needed to support an application from start to finish. For more information, visit www.micross.com.

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