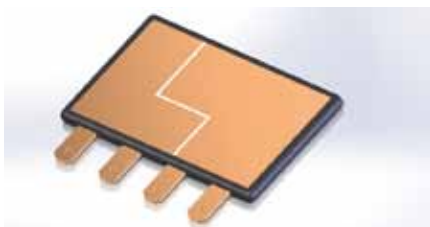


Boschman Technologies is the world's leading supplier of automatic molding systems using Film Assisted Molding (FAM) technology and the experience built up with the molding technology Boschman Technologies also uses for the Ag Silver Sintering Presses for power packages to replace soldering. Boschman Technologies develops new processes for the Ag-sinter technology under pressure and the encapsulation of power packages. Boschman Technologies delivers the encapsulation equipment and sintering presses to the worldwide semiconductor and electronic industry. Boschman Technologies provides in a close cooperation with the semi-industry new processes and equipment for the Power packages. The "basic" technology of molding with a protecting film started more than 15 years ago and the semiconductor industry looks with favour on the advanced processes of encapsulation. Boschman Technologies has the technology to (partly) encapsulate the Power packages in such a way that the "heatsink" area of the package can perform its function in a perfect encapsulated environment. .



molded part

Transfer molding is the primary process method for the microelectronic encapsulation and with encapsulation material-epoxy molding compound (EMC), one of the first applications was the transistor package. Traditional transfer molding process has disadvantages including EMC bleed and resin flash, time consuming mold cleaning, mold wearing, package deformation during the ejection process and lead frame deformation or (ceramic) substrate cracking due to clamping. FAM deals with challenges of releasing components from the mold and keeping certain surfaces -heat-sink- clean from molding compound. Releasing from the mold and product surfaces is accomplished by a "seal film" and the seal film is refreshed after every molding cycle. The seal film is functioning as a gasket, reducing the clamping force, and allowing clamp and seal on dies and ceramic surfaces. In close cooperation with the Ag sinter material suppliers Boschman developed a family of Ag sinter presses from Semi automatic up to complete automatic systems for high volume production. The Dynamic Insert Technology, developed for the molding presses, Boschman Technologies is also using for the Sintering Systems.



Sintering in the Boschman presses is for lead frames, substrates or ceramic carriers and the film protects the die surfaces against damages. With the Dynamic Insert Technology the clamping on the dies and DBC's is done with a very precise force control compensating for built up tolerances. The Boschman Systems are designed for low cost, fast and easy product conversion.

