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SEMICONDUCTOR DEVICE, MANUFACTURING METHOD AND APPARATUS FOR THE SAME

ABSTRACT

A highly reliable semiconductor chip electrode structure allowing control of interface reaction of bonding sections even in the case of using two- or three- element solder used conventionally is disclosed. A solder alloy making layer (8) for preventing dissolving and diffusion of tin into tin-based lead free solder is thinly formed on a UBM layer (5). The tin-based solder is supplied in solder paste or solder ball form. A combined solder alloy layer (6) composed of a combination of intermetallic compounds, one of tin and the solder alloy making layer (8), and one of tin and the UBM layer (5) is formed by heating and melting.

FIG 1.