ABSTRACT

An insulated lead frame is disclosed. The preferred embodiment contains a lead over chip lead frame (25) having an aluminum oxide insulator (30) on portions of the power supply busses (28) where no electrical connections will be made. The aluminum oxide (30) may be easily deposited by an arc deposition process such as by plasma deposition. A mask prohibits the aluminum oxide from coating the places on the power supply busses where electrical connection, such as by wire bond, will be made. Wire bonds crossing over the power supply busses (28) as they connect bond pads (23) to the lead fingers (27) of the lead frame (25) are therefore less likely to short to the insulated power supply busses (28). A semiconductor packaged device having an aluminum oxide coating to the underside of the chip support pad is also disclosed. The aluminum oxide coating promotes adhesion between the chip support pad and the encapsulant, that is typically plastic, thereby preventing the chance of delamination and package cracking.

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