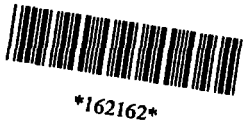
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ETCH/CLEAN PROCESS FOR INTEGRATED CIRCUIT PAD METAL

ABSTRACT

A new method of etching an opening to a bonding pad wherein corrosion is eliminated and fluorine contamination is reduced is described. A metal bonding pad is provided overlying an insulating layer on a semiconductor substrate. An anti-reflective coating (ARC) layer is deposited overlying the metal bonding pad. A passivation layer is deposited overlying the ARC layer. A hard mask layer is deposited overlying the passivation layer. A photoresist mask is formed overlying the hard mask layer having an opening where the contact opening to the metal bonding pad is to be made. The hard mask layer and passivation layer not covered by the photoresist mask are etched through, stopping at the ARC layer. Thereafter, the photoresist mask is removed and the opening is cleaned. The ARC layer protects the metal bonding pad during these steps. The ARC layer within the opening is etched away wherein the hard mask layer overlying the passivation layer prevents erosion of the passivation layer thereby preventing contamination of the metal bonding pad to complete opening a contact to a metal bonding pad in the fabrication of an integrated circuit.

Figure 6

