A NOVEL PROCESS FOR IMPROVED HOT CARRIER INJECTION

ABSTRACT

A method for fabricating aluminum bonding pads is described. A passivation layer is provided overlying semiconductor device structures in and on a substrate. A bonding pad layer is deposited overlying the passivation layer and within openings in the passivation layer to underlying semiconductor device structures. A masking layer is formed overlying the bonding pad layer wherein the masking layer has a pattern of bonding pads and a dummy pattern wherein a density of the bonding pad pattern and the dummy pattern together is 20% or more. The bonding pad layer is etched away where it is not covered by the masking layer to form bonding pads contacting the semiconductor device structures and dummy pads not contacting the semiconductor device structures wherein the pattern density of 20% or more reduces plasma damage by reducing an etching rate of the bonding pad layer compared to a pattern density of less than 20%.

FIG. 6