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CS94-002

ABSTRACT

A method for dry etching a composite metal film, consisting of an aluminum overlay film, a titanium - tungsten film, and a titanium underlay film, is described. The process uses an organic photoresist as a mask and features improved etch selectivity and non- tapered sidewalls. The addition of CF4, to the etching chemistry used to pattern titanium - tungsten films, increases the selectivity between the photoresist and titanium - tungsten, allowing for thinner resists to be used, and thus finer resolutuion to be achieved. The introduction of N2 to the etching chemistry results in a N2 containing polymer to be formed during the etching procedure, on the sidewalls of the etched structure. The polymer prevents the isotropic component of the reactive ion etching process to attack the metal structure, thus allowing for non-tapered structures to be obtained.

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