CHANNEL SURFACE TECHNIQUE FOR FABRICATION OF FinFET DEVICES

ABSTRACT

A FinFET (p-channel) device is formed having a fin structure with sloped or angled sidewalls (e.g., a pyramidal or trapezoidal shaped cross-section shape). When using conventional semiconductor substrates having a (100) surface orientation, the fin structure is formed in a way (groove etching) which results in sloped or angled sidewalls having a (111) surface orientation. This characteristic substantially increases hole mobility as compared to conventional fin structures having vertical sidewalls.

Fig. 2A and 2B