SOURCE AND DRAIN ARCHITECTURE IN AN ACTIVE REGION OF A P-CHANNEL TRANSISTOR BY TILTED IMPLANTATION

ABSTRACT

In sophisticated p-channel transistors, which may frequently suffer from a pronounced surface topography of the active regions with respect to the surrounding isolation regions, superior performance may be achieved by using a tilted implantation upon forming the deep drain and source regions (251D), preferably with the tilt angle (α, ß) of 20° or less. That is angle as oriented preferred to the gate electrode structure (260), thereby substantially avoiding undue lateral dopant penetration into sensitive channel areas (255).

Fig. 2b