MOS SEMICONDUCTOR DEVICE AND METHODS FOR ITS FABRICATION

ABSTRACT

An MOS device having a selectively formed channel region and methods for its fabrication are provided. One such method includes forming a mask defining a gate region overlying a surface of a semiconductor substrate. Source and drain regions are formed in the semiconductor substrate in alignment with the gate region and an enhanced doping sub-surface impurity region is formed in the semiconductor substrate using the mask as a doping mask. A gate electrode is then formed overlying the semiconductor substrate in alignment with the gate region by using the mask as a gate alignment mask.

Fig. 10