HIGH VOLTAGE DEVICE

ABSTRACT

A method of forming a device is presented. The method includes providing a substrate prepared with an active device region. The active device region includes gate stack layers of a gate stack including at least a gate electrode layer over a gate dielectric layer. A first mask is provided on the substrate corresponding to the gate. The substrate is patterned to at least remove portions of a top gate stack layer unprotected by the first mask. A second mask is also provided on the substrate with an opening exposing a portion of the first mask and the top gate stack layer. A channel well is formed by implanting ions through the opening and gate stack layers into the substrate.

Fig. 1