SEMICONDUCTOR STRUCTURE INCLUDING HIGH VOLTAGE DEVICE

ABSTRACT

A high voltage device includes a substrate with a device region defined thereon. A gate stack is disposed on the substrate in the device region. A channel region is located in the substrate beneath the gate stack, while a first diffusion region is located in the substrate on a first side of the gate stack. A first isolation structure in the substrate, located on the first side of the gate stack, separates the channel and the first diffusion region. The high voltage device also includes a first drift region in the substrate coupling the channel to the first diffusion region, wherein the first drift region comprises a non-uniform depth profile conforming to a profile of the first isolation structure.

Fig. 2I