

ABSTRACT

A shielded-gate-trench device and method for preparing the same. The method includes: providing a substrate, the substrate including an epitaxial layer, a first trench within the epitaxial layer, and a first oxide layer covering an inner wall of the first trench and partially covering the epitaxial layer; forming a polysilicon structure filling the first trench, a doping concentration of the polysilicon structure decreasing progressively from a bottom to a top of the first trench; etching back the polysilicon structure to form a second trench, wherein a polysilicon trench wall of the second trench overlaps the first oxide layer on the inner wall of the first trench, the second trench is used to form a shielded gate structure; and forming a second oxide layer on the polysilicon trench wall through oxidation, a thickness of the second oxide layer decreasing progressively from the bottom to the top of the first trench.