

ABSTRACT

LANTHANUM OXIDE-BASED SINTERED COMPACT, SPUTTERING TARGET COMPOSED OF SAID SINTERED COMPACT, METHOD OF PRODUCING LANTHANUM OXIDE-BASED SINTERED COMPACT, AND METHOD OF PRODUCING SPUTTERING TARGET BASED ON SAID PRODUCTION METHOD

A lanthanum oxide-based sintered compact having lanthanum oxide as a basic component, wherein the sintered compact contains one or more of titanium oxide, zirconium oxide and hafnium oxide with the remainder being lanthanum oxide and unavoidable impurities. A method of producing a lanthanum oxide-based sintered compact, wherein $\text{La}_2(\text{CO}_3)_3$ powder or La_2O_3 powder as lanthanum oxide raw material powder and one or more of TiO_2 , ZrO_2 and HfO_2 powders as an additive oxide are used, blending and mixing are performed so that the composition ratio of metal components of the additive oxide becomes a predetermined value based on the metal conversion, the mixed powder is thereafter heated and synthesized in the atmosphere, the synthesized material is subsequently pulverized to obtain powder, and the synthesized powder is thereafter hot pressed into a sintered compact. This invention prevents the sintered compact from combining with moisture or carbon dioxide gas to form hydroxide or the like and changing into powder form, and enables the long term storage thereof. Moreover, as a result of performing deposition with this sputtering target, oxide for use in a high-k gate insulator film can be efficiently and stably provided.