

ABSTRACT

Disclosed is $\text{SiO}_2\text{-Al}_2\text{O}_3\text{-RO}$ (RO = divalent metal) glass having high specific elastic modulus of $36 \times 10^6 \text{ Nm/kg}$ or more or high Young's modulus of 110 GPa or more, high transition temperature of 700°C or higher (high heat resistance). The glass exhibits excellent surface smoothness (surface roughness $R_a < 9 \text{ \AA}$) and high strength, which can provide glass substrate with high strength. Since glass substrates being composed of the glass having excellent heat resistance and flatness, the substrates can be subjected to heat treatment for improvement of magnetic layer characteristics without any decomposition of the substrate and realize smaller flying height of magnetic head, i.e., higher recording density. The glasses exhibiting high specific elastic modulus and high strength enables to realize thinner magnetic discs and prevent breakdown of magnetic discs.