Glass-ceramic substrate for a magnetic information storage medium

Abstract of the Disclosure

A glass-ceramic substrate for a magnetic information storage medium having a super flat surface comprises, as a predominant phase or phases, at least one crystal phase selected from the group consisting of lithium disilicate ($Li_2O \cdot 2SiO_2$, having an interplaner spacing of maximum peak intensity measured by an X-ray diffraction analysis within a range from 3.57Å and 3.62Å), quartz (SiO_2, having an interplaner spacing of maximum peak intensity measured by an X-ray diffraction analysis within a range from 3.33 Å to 3.41Å), quartz solid solution (SiO_2 solid solution, having an interplaner spacing of maximum peak intensity measured by an X-ray diffraction analysis within a range from 3.33 Å to 3.41 Å), cristobalite (SiO_2, having an interplaner spacing of maximum peak intensity measured by an X-ray diffraction analysis within a range from 4.04Å to 4.14Å) and cristobalite solid solution (SiO_2 solid solution, having an interplaner spacing of maximum peak intensity measured by an X-ray diffraction analysis within a range from 4.04Å to 4.14Å), has a coefficient of thermal expansion within a range from $+62 \times 10^{-7}$/℃ to $+130 \times 10^{-7}$/℃ in a temperature range from −50℃ to +70℃, has Young's modulus within a range from 80GPa to 150GPa, has Vickers hardness within a range from 4.5GPa to 15.0GPa, has a specific gravity within a range from 2.2 to 2.8, has a surface roughness (Ra) after polishing within a range from 3Å to 9Å and contains Al_2O_3 in the amount of 2% to less than 10%.