GLASS-CERAMIC SUBSTRATE FOR A MAGNETIC DISK AND A METHOD FOR MANUFACTURING THE SAME

ABSTRACT OF THE DISCLOSURE

There is provided a glass-ceramic substrate for a magnetic disk having a data zone (2) and a landing zone (3) capable of stably lifting a magnetic head in the landing zone (3) and also capable of reducing the amount of lifting of the magnetic head in the data zone (2) for realizing a high recording density. The landing zone (3) has a multiplicity of projections or depressions formed by irradiation of laser beam. A CO_2 laser or a laser diode pumped solid-state laser can be used for this purpose. The surface roughness (Ra) of a polished surface of the landing zone is within a range from 3 Å to 9 Å, height of the projections or depressions is within a range from 50 Å to 300 Å, surface roughness (Ra) of the projections or depressions is within a range from 10 Å to 50 Å and interval of the projections or depressions is within a range from 10 μm to 200 μm. A preferable glass-ceramic used is a glass-ceramic of a SiO_2 - Li_2O - K_2O - Mgo - ZnO - P_2O_5 - Al_2O_3 system or a SiO_2 - Li_2O - K_2O - MgO - ZnO - P O - Al O - ZrO system. For stable forming of projections or depressions in the landing zone (3) by a laser diode pumped solid-state laser, the glass-ceramic preferably includes at least two coloring agents selected from NiO, CoO, MnO_2, V_2O_5, CuO and Cr_2O_3. (Figure 1)