

LAYERED SOFT MAGNETIC FILMS AND MAGNETIC HEAD

ABSTRACT

A magnetic head having a laminated magnetic film in which crystal orientation of precipitated small crystal particles can be controlled and the soft magnetic characteristic in the thickness of the laminated magnetic film can easily be controlled. The magnetic head has the laminated magnetic film formed by laminating thin magnetic layers, each having a composition as $\text{Fe}_x\text{M}_y\text{N}_z$, and metal layers. The laminated magnetic film is subjected to heat treatment so that metal atoms forming the metal layers are diffused into the thin magnetic films. Thus, the laminated magnetic film contains small crystal particles of αFe , the direction of crystal of which is controlled by the diffused metal atoms. Therefore, the laminated magnetic film has an excellent soft magnetic characteristic also in the direction of the thickness thereof.

