TRILAYER SEED LAYER STRUCTURE FOR SPIN VALVE SENSOR

ABSTRACT

A trilayer seed layer structure (302) is employed between a first read gap layer (216) and a spin valve sensor (300) for improving the magnetic and giant magnetoresistive properties and the thermal stability. The spin valve sensor (300), the trilayer seed layer structure (302) is located between a first read gap layer (216) and a ferromagnetic free layer (202). The antiferromagnetic pinning layer is preferably nickel manganese (Ni-Mn). The trilayer seed layer structure (302) includes a first seed layer (304) that is a first metallic oxide, a second seed layer (306) that is a second metallic oxide and a third seed layer (308) that is a nonmagnetic metal. A preferred embodiment is a first seed layer (304) of nickel oxide (NiO), a second layer (306) of nickel manganese oxide ($NiMnO_x$), and a third seed layer (308) of copper (Cu).

FIG 13

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