SELF-BIASED SPIN VALVE SENSOR

ABSTRACT

A self-biased spin valve (SV) magnetoresistive (MR) sensor is disclosed having a free layer (448) separated from a pinned layer (452) by a spacer1 layer (450) and further having the free layer (448) separated from a keeper layer (444) by a spacer2 layer (446). The free layer (448) being disposed between the keeper layer (444) and the pinned layer (452). The keeper layer (444) in combination with the sense current flowing in the sensor is used as a means of pinning the magnetization of the pinned layer (452). By using the soft keeper layer (444) in combination with the sense current as a means of pinning the pinned layer magnetization as opposed to the use of the conventional antiferromagnetic layer, the SV sensor dependency on the blocking temperature of the antiferromagnetic layer is eliminated.

Fig. 4

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