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Aoki et al.

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(54) **MAGNETORESISTIVE-EFFECT DEVICE AND METHOD FOR MANUFACTURING THE SAME**

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(57) **ABSTRACT**

A magnetoresistive-effect device includes a multilayer film, hard bias layers arranged on both sides of the multilayer film, and electrode layers respectively deposited on the hard bias layers. The electrode layers are formed, extending over the multilayer film. Under the influence of the hard bias layers arranged on both sides of the multilayer, the multilayer film, forming the magnetoresistive-effect device, has, on the end portions thereof, insensitive regions which exhibit no substantial magnetoresistive effect. The insensitive region merely increases a direct current resistance. By extending the electrode layers over the insensitive regions of the multilayer film, a sense current is effectively flown from the electrode layer into the multilayer film. With a junction area between the electrode layer and the multilayer film increased, the direct current resistance is reduced, while the reproduction characteristics of the device are thus improved.

**9 Claims, 33 Drawing Sheets**

