[0423] In the magnetoresistive-effect device shown in **FIG. 20**, the first free magnetic layer **73** and the second free magnetic layer **75**, having different magnetic moments, are in a ferrimagnetic state with the magnetization directions thereof being antiparallel. The first free magnetic layer **73** and the second free magnetic layer **75**, separated from each other by the nonmagnetic material layer **74**, function as a single free magnetic layer F.

[0424] The two end portions of the free magnetic layer F, having disturbed magnetization directions, present a poor reproduction gain, and become insensitive regions unable to exhibit no substantial magnetoresistive effect.

[0425] In fifteenth embodiment again, the sensitive region E and the insensitive regions D and D of the multilayer film **200** are measured using the micro track profile method. Referring to **FIG. 20**, the portion, having the width dimension T57, of the multilayer film **200** is the sensitive region E, and the portions, each having the width dimension T58, on both sides of the sensitive region E are the insensitive regions D and D.

[0426] In the sensitive region E, the magnetization direction of the pinned magnetic layer P is pinned correctly in a direction parallel to the Y direction, and the magnetization direction of the free magnetic layer F is correctly aligned in the X direction. The pinned magnetic layer P and the free magnetic layer F are thus perpendicular in magnetization direction. The magnetization of the free magnetic layer F varies sensitively in response to an external magnetic field from the recording medium. An electrical resistance varies in accordance with the relationship between the variation in the magnetization direction of the free magnetic layer F and the pinned magnetic field of the pinned magnetic layer P. A leakage magnetic field from the recording medium is thus detected in response to a variation in voltage due to the electrical resistance variation. However, those which directly contribute to the variation in the electrical resistance (i.e., the reproduction output) are a relative angle made between the magnetization direction of the pinned magnetic layer **71** and the magnetization direction of the first free magnetic layer **73**. These magnetization directions are preferably perpendicular with a sense current conducted in the absence of a signal magnetic field. In other words, the variation in the electrical resistance is determined by the relative angle made between the magnetization directions of the free magnetic layer **73** and the pinned magnetic layer **71**, which are separated from each other by the nonmagnetic electrically conductive layer **72**.

[0427] The electrode layers **130** and **130** formed above the multilayer film **200** extend over the multilayer film **200**. The width dimension of the top surface of the multilayer film **200** not covered with the electrode layers **130** and **130** is the optical read track width O-Tw.

[0428] The magnetic read track width M-Tw, determined by the width dimension of the sensitive region E not covered with the electrode layers **130** and **130**, is a width dimension T57, which is also the dimension of the sensitive region E.

[0429] In the fifteenth embodiment, the electrode layers **130** and **130** formed on the multilayer film **200** fully cover the insensitive regions D and D, setting the optical read track width O-Tw and the magnetic read track width M-Tw (i.e., the width dimension of the sensitive region E) to approximately the same dimension.

[0430] It is not a requirement that the electrode layers **130** and **130** formed above the multilayer film **200** fully cover the insensitive regions D and D, and the electrode layer **130** may be narrower than the insensitive region D. In this case, the optical read track width O-Tw becomes larger than the magnetic read track width M-Tw.

[0431] The percentage of the sense current flowing from the electrodes **130** and **130** to the multilayer film **200** without passing through the hard bias layers **77** and **77** is increased.

[0432] The electrode layers **130** and **130** extending over the insensitive regions D and D prevent the sense current from flowing into the insensitive regions D and D, thereby controlling the generation of noise.

[0433] When the magnetoresistive-effect device shown in **FIG. 20** is produced using the manufacturing method to be described later, the angle θ**20** made between the end face **130***a* of the electrode layer **130**, extending over the insensitive region of the multilayer film **200** and in contact with the insulator layer **131**, and the top surface **15***a* of the protective layer **15**, is set to be 60 degrees or greater, or 90 degrees or greater. This arrangement allows a certain quantity of sense current to continuously flow through the electrode layer **130**, way down to the tip thereof. The magnetoresistive-effect device shown in **FIG. 20** is more effective than the magnetoresistive-effect device shown in **FIG. 10** in the prevention of the sense current from shunting into the insensitive region, thereby in the control of the generation of noise.

[0434] If the magnetoresistive-effect devices shown in **FIG. 1** through **FIG. 14**, having a tapered electrode layer toward its end, are produced in accordance with the manufacturing method described with reference to **FIG. 15** through **FIG. 19**, it is difficult to form the width dimension of the electrode layer extending over the insensitive region at a constant width dimension. A magnetoresistive-effect device having the end of the electrode layer extending over into the sensitive region can result.

[0435] If the end of the electrode layer reaches the sensitive region, the width dimension of the area of the electrode layer permitting the sense current to flow therethrough becomes smaller than the width dimension of the sensitive region, and the area of the magnetoresistive-effect device capable of detecting the magnetic field is thus narrowed.

[0436] In the magnetoresistive-effect device shown in **FIG. 20**, the location of the insulator layer **131** on the multilayer film **200** is accurately set using a manufacturing method to be described later and the electrode layer **130** is prevented from extending beyond the insensitive region.

[0437] Referring to **FIG. 20**, the width dimension T59 of the electrode layer **130** extending over the insensitive region D of the multilayer film **200** is preferably within a range from 0 μm to 0.08 μm. The width dimension T59 of the electrode layer **130** is more preferably within a range of 0.05 μm to 0.08 μm.

[0438] By producing the magnetoresistive-effect device of **FIG. 20** through the manufacturing method to be described later, the side face of the multilayer film **200** and the side face of the insulator layer **131** are set to be parallel to each other.