SPIN VALVE SENSOR WITH ENHANCED MAGNETORESISTANCE

ABSTRACT

A spin valve magnetoresistive (MR) read sensor (600) is provided wherein the free and pinned layer magnetization are perpendicular to each other under quiescent conditions and the current flowing in the free MR layer (632) is oriented to flow at a substantially 45 degree angle with respect to the free layer magnetization. The flow of the current at the 45 degree angle with respect to the free layer magnetization causes the AMR effect which is present in the free MR layer (632) to be added to the spin valve sensor GMR effect and increases the overall magnetoresistive effect by about 25% to 33%.

Fig. 6B