

162162

DUAL GMR SENSOR WITH A SINGLE AFM LAYER



G00002

ABSTRACT

A dual GMR sensor (200) with a single antiferromagnetic (AFM) pinned layer (202) is provided which has a thinner overall stack thickness and additive spin valve effects to increase the sensitivity of the dual sensor (200) and counterbiasing of the free layers (212,214) dual sensor (200) so as to render the sensor (200) insensitive to a magnitude and orientation of a sense current. The single pinning layer (202) reduces the thickness of the dual sensor (200) permitting the employment of an antiparallel (AP) pinned layer structure (204, 206) for each of the spin valve sensors of the dual sensor(200). Further a preferred material for the pinning layer (202) is iridium manganese (IrMn) which reduces the pinning layer to 50Å - 80Å.

FIG 15