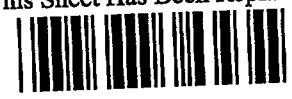
DISK DRIVE WITH THERMAL ASPERITY REDUCTION CIRCUITRY USING A MAGNETIC TUNNEL JUNCTION SENSOR.

ABSTRACT

A disk drive system (400) having a magnetic tunnel junction (MTJ) sensor (600) having two MTJ stacks (602,604) between first and second shields (640,644) and a common electrode (642) disposed between the two MTJ stacks (602,604). A first sense current is provided to the first MTJ stack (602) by the first shield (640) and the common electrode and a second sense current is provided to the second MTJ stack (604) by the second shield (644) and the common electrode (642). The magnetization directions of the pinned layers (618) of the first and second MTJ stacks (602,604) are fixed perpendicular to the ABS and antiparallel with respect to each other so that the magnetoresistive signal generated due to an external field from a disk by the first MTJ stack (602) differs in phase by 180° with respect to the magnetoresistive signal generated due to the same external field by the second MTJ stack (604).

FIG.4

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