

Title (en)  
MAGNETIC MEMORY DEVICE

Title (de)  
MAGNETISCHE SPEICHERANORDNUNG

Title (fr)  
DISPOSITIF A MEMOIRE MAGNETIQUE

Publication  
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Application  
**EP 03758339 A 20031022**

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Abstract (en)  
[origin: WO2004038723A2] The invention relates to a magnetic memory cell for use in MRAM technology. The cell comprises a first ferromagnetic fixed (hereinafter FMF) layer with a first magnetic moment, a second FMF layer with a second magnetic moment, at least one ferromagnetic soft (hereinafter FMS) layer with a third magnetic moment, said FMS layer being arranged between the first and second FMF layers, a first nonmagnetic intermediate layer arranged between said first FMF layer and said FMS layer, and a second non-magnetic intermediate layer arranged between said second FMF layer and said FMS layer. Said first intermediate layer is adapted to allow a spin-polarized write current to pass between said first FMF layer and said FMS layer, said write current having an amount sufficient to change a relative orientation of said first and third magnetic moments. Said second intermediate layer is adapted to influence the resistance between said second FMF layer and said FMS layers at a predetermined read voltage in dependence on a relative orientation of said second and third magnetic moments, said read voltage creating a spin-polarized current amount lower than said write current amount. Said first and second magnetic moments are in a predetermined parallel or antiparallel alignment relative to each other.

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