

MAGNETORESISTIVE DEVICE

ABSTRACT

5 According to embodiments of the present invention, a magnetoresistive device having a magnetic junction is provided. The magnetic junction of the magnetoresistive device includes a first fixed magnetic layer structure having a fixed magnetization orientation, a second fixed magnetic layer structure having a fixed magnetization orientation, and a free magnetic layer structure having a variable magnetization orientation, wherein the first
10 fixed magnetic layer structure, the second fixed magnetic layer structure and the free magnetic layer structure are arranged one over the other, wherein the first fixed magnetic layer structure, the second fixed magnetic layer structure and the free magnetic layer structure have respective magnetization orientations configured to orient in a direction at least substantially perpendicular to a plane defined by an interface between the free
15 magnetic layer structure and either one of the first fixed magnetic layer structure or the second fixed magnetic layer structure, wherein the respective magnetization orientations of the first fixed magnetic layer structure and the second fixed magnetic layer structure are oriented anti-parallel to each other, and wherein the first fixed magnetic layer structure is a static fixed magnetic layer structure having a switching field that is larger
20 than a switching field of the free magnetic layer structure.

Figure 4