



**Figure 2. The internal layout of the FLEX 10K (courtesy of Altera)**

The FLEX10K chip was also used due to the readily available Altera® UP-1 student demo board. The majority of time spent on the project dealt with becoming familiar with this board and the different features that were available. As can be seen below, the UP-1 board has two separate FPGA on it. The first is the EPM7128S (MAX 7000S) and the second is the EPF10K20 (FLEX 10K20). The MAX chip is significantly smaller with a capacity of 2,500 gates and comes in an 84-pin package while the FLEX chip is significantly larger as stated before. The MAX chip does come socket-mounted however, while the FLEX chip was not. In order to access the pins of the FLEX chip, the through-