

MEMORY DEVICE, AND DATA PROCESSING METHOD BASED ON MULTI-LAYER RRAM CROSSBAR ARRAY

ABSTRACT

Embodiments of the present invention provide a memory device. The memory device includes
5 an RRAM crossbar array that is configured to perform a logic operation, and resistance values of
resistors in the RRAM crossbar array are all set to R_{on} or R_{off} to indicate a Boolean value 1 or 0.
Based on the foregoing setting, a Boolean operation is implemented by using the RRAM crossbar
array, so that reliability of a logic operation of the RRAM crossbar array can be improved.

10 Fig. 5