NON-VOLATILE MEMORY UTILIZING IMPACT IONIZATION AND TUNNELLING AND METHOD OF MANUFACTURING THEREOF

ABSTRACT

A non-volatile memory device (and method of manufacture) is disclosed and structured to enable a write operation using an ionization impact process in a first portion of the device and a read operation using a tunneling process in a second portion of the device. The non-volatile memory device (1) increases hot carrier injection efficiency, (2) decreases power consumption, and (3) enables voltage and device scaling in the non-volatile memory devices.

FIG. 8