Abstract

A memristor (short for memory resistor) is a passive nonlinear two-terminal circuit element in which the resistance is a function of the history of the current through and voltage across the device. It is basically a fourth class of electrical circuit, joining the resistor, the capacitor, and the inductor, that exhibit their unique properties primarily at the nanoscale. It has a relationship between the charge and flux leakage. The memristor allows extension to Moore's Law for a few more years. Memory can be implemented in all levels (cache, main memory and storage) with memristor-based memory. There are many other potential applications with memristors including Artificial Intelligence, analog computing and brain-like circuits, a new
approach for logic and much more.

References


Index Terms

Computer Science

Emerging Trends in Technology

Keywords

Memristors