

The Future Of Nanoelectronic Digital Computers

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ABSTRACT

This short review examines how much development potential will be left for future nanoelectronic computers, using non-CMOS digital logic devices, after silicon-based CMOS or CMOS-related computing circuits cease to improve in performance. It is shown that there is still a potential improvement factor of approximately 1000 available before thermal fluctuations cause unacceptably frequent errors. In view of the uncertainties about the development potential of existing nanodevices, it is suggested that there a considerable time period may elapse between the ending of 'Moore's Law' for CMOS and the introduction of systems using non-CMOS nanodevices.

