

Moore's Law Definition:

Moore's law states that approximately every 2 years the number of transistors in a microprocessor doubles.

Physical limitations that have prevented Moore's law from holding true:

- Mainly, the stagnation of Moore's Law is a consequence of the physical limit of current technology. By increasing the density of transistors, the heat generated for the same volume increases. Therefore it is not possible to remove heat fast enough without risk of overheating and damaging the microprocessor.
- Power increases as transistor density increases.
- Voltage scaling reduces power consumption.
- Voltage scaling cannot prevent leakage power loss.
- Voltage scaling is limited due to noise or threshold voltage.