Scientific Notation Numbers

The display of numbers in floating point form.
The number (mantissa) is always equal to or greater than one and less than 10, and the base is 10.
For example, 2.34E6 or 2.34 x 10^6 is equal to 2,340,000.
The number following E (exponent) represents the power to which the base should be raised

- $10^1 = 10$
- $10^2 = 100$
- $10^3 = 1000$
- $10^6 = 1{,}000{,}000$
- $10^9 = 1{,}000{,}000{,}000$
- $10^{20} = 100{,}000{,}000{,}000{,}000{,}000{,}000$
- When the exponent is positive, it is equal to the number of following zeros or decimal places

Most commonly used in ESD control:

Prefix	Symbol	Scientific Notation	Common Usage	Common ESD Control Use
kilo-	K	1 x 10^3 or 10E3	1,000 one thousand	2 kv or 2,000 volt ElectroStatic Charge
mega-	M	1 x 10^6 or 10E6	1,000,000 one million	1 Megohm Resistor or 1,000,000 ohms
giga-	G	1 x 10^9 or 10E9	1,000,000,000 one thousand million	ESD Worksurface or Shoe resistance to ground less than 1 x10^9 ohms or 1,000,000,000 ohms

Note: Exponent can be negative
10 raised to a negative integer power $-n$ is equal to $1/10^n$ or, equivalently 0. *(n−1 zeros)*1:

- $10^{-1} = 1/10 = 0.1$
- $10^{-3} = 1/1000 = 0.001$
- $10^{-9} = 1/1{,}000{,}000{,}000 = 0.000000001$
- When the exponent is negative, move that number of decimal places to the left