Electronics

Electronics Units

C	capacitance in Farads
e	2.718281828 (approximately)
I	current in Amperes
P	power in Watts
q	charge in Coulombs
R	resistance in Ohms
t	time in seconds
V	voltage in Volts

Electronics Formulae

$I = \dfrac{V}{R}$	Ohm's Law
$P = IV$	power
$q = CV$	charge on a capacitor
$q = q_0 e^{-t/RC}$	discharging capacitor
$q = CV\left(1 - e^{-t/RC}\right)$	charging capacitor

Decibels

$$\text{Voltage ratio dB} = 20 \log_{10}(V_1/V_2)$$
$$\text{Voltage level dBu} = 20 \log_{10}(V/0.775)$$
$$\text{Voltage level dBV} = 20 \log_{10}(V)$$

$$\text{Power dB} = 10 \log_{10}(P_1/P_2)$$
$$\text{Power level dBm} = 10 \log_{10}(P/0.001)$$

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