Cheatography

Electronics Analog Cheat Sheet

by whatthe via cheatography.com/18561/cs/1809/

Resistors

in series: Rtotal = R1 + R2 etc

parallel: Rtotal = 1 / (1 / R1 + 1 / R2 etc.)

Ohm's Law

V=IR	I= V/Xc
Z=V/I	I=V/XL

THE (R) GETS REPLACED DEPENDING ON WHAT YOU'RE USING TO SOLVE

RC Circuits

Time constant	τ= RC
instanteous voltage	V= Vf+ (Vi-Vf) e ^(-t/τ)
current	i= If+ (Ii- If) e^(-t/τ)
charging from zero	V=Vf (1-e^(-t/RC))
Capacitive reactance	Xc= 1/ 2pifC
Xc in series	Xc total= Xc1+ Xc2...
Xc in parallel	Xc= 1/ (1/Xc1) + (1/Xc2) +...

Capacitors

in series	Ctotal = 1 / (1 / C1 + 1 / C2 etc.)
parallel	Ctotal = C1 + C2 etc.

Voltage Divider

Vx= (Vs/Rt) Rx	Vx=(Rx/Rt) Vs

Inductors

in series	Lt= L1+L2 etc
parallel	Lt= 1/(1/L1)+(1/L2)...

Current Divider

Ix=(Rt/Rx)Is

Voltage across Capacitor

Vx= (ct/cx) Vs

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