

# **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.)

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

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

#### **RC Circuits**

Time constant	τ= RC		
instanteous voltage	$V=Vf+(Vi-Vf) e^{(-t/\tau)}$		
current	$i=$ If+ (Ii- If) $e^{(-t/\tau)}$		
charging from zero	V=Vf (1-e^(-t/RC))		

Capacitive

Xc= 1/2pifC

reactance

Xc in series Xc total= Xc1+ Xc2...

Xc in parallel Xc = 1/(1/Xc1) +

(1/Xc2) +...

## Capacitors

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

parallel Ctotal = C1 + C2 etc.

#### Voltage Divider

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

## Inductors

Lt= L1+L2 etc in series

parallel Lt= 1/(1/L1)+(1/L2)...

#### **Current Divider**

Ix=(Rt/Rx)Is

# Voltage across Capacitor

Vx= (ct/cx) Vs



#### By whatthe

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Not published yet. Last updated 13th May, 2016. Page 1 of 1.

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