

Electronics Workshop - September 24, 2015

Time & Location:

7:00 PM

843 SW 21st St; Chehalis – Blue house with blue detached garage; 3rd side street from LCFD#6

Topics:

LEDs and Ohm's Law

AC Peak and RMS Voltage

Simple Device Curve Tracer using an X-Y oscilloscope

Bring:

1. Chair

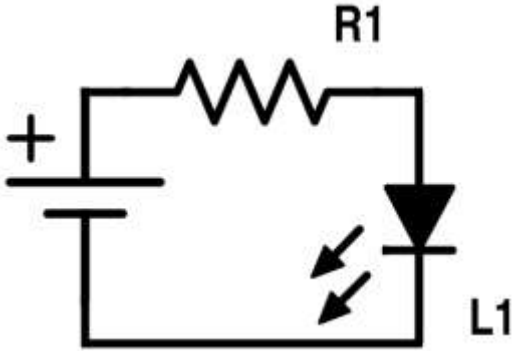
Optional:

- 1 Oscilloscope with X-Y capability
- 2 Breadboard
- 3 LEDs
- 4 Multimeter/Volt-Ohm Meter

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Notes:

LED Circuit



Ohm's Law

$$E = I * R \quad (\text{Voltage} = \text{Current} * \text{Resistance})$$

Power

$$P = E * I$$

Sinusoidal AC

$$V_{PEAK} = \sqrt{2} * V_{RMS} = 1.414 * V_{RMS}$$

Capacitive Reactance

$$X_C = 1 / 2\pi f C$$

Inductive Reactance

$$X_L = 2\pi f L$$

Where:

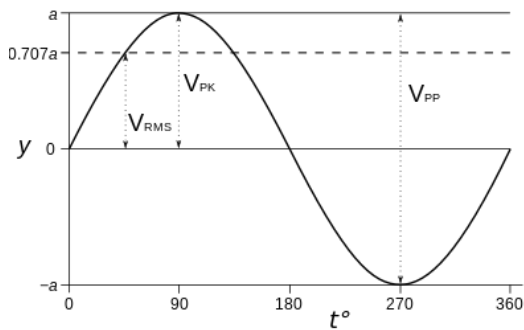
X = ohms

f = hertz

C = farads

L = henries

Sinusoidal AC Waveform



"Octopus" Component Tester

