

USEFUL FORMULAS FOR DC CIRCUITS

Ohm's Law for D.C. Circuits

$$I = \frac{E}{R} = \frac{P}{E} = \sqrt{\frac{P}{R}}$$

$$R = \frac{E}{I} = \frac{P}{I^2} = \frac{E^2}{P}$$

$$E = IR = \frac{P}{I} = \sqrt{PR}$$

$$P = EI = \frac{E^2}{R} = I^2 R$$

Resistors in Series

$$R_T = R_1 + R_2 + \dots + R_n$$

Resistors in Parallel

Two resistors

$$R_T = \frac{R_1 R_2}{R_1 + R_2}$$

More than two

$$\frac{1}{R_T} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3} + \dots + \frac{1}{R_n}$$

Where R = resistance in ohms,

I = current in amperes,

E = potential across R in volts,

P = power in watts

OHM'S LAW FORMULAS FOR D.C. CIRCUITS

Known Values	Formulas for Determining Unknown Values of . . .			
	R	I	E	P
I&R			IR	I ² R
I&E	$\frac{E}{I}$			EI
I&P	$\frac{P}{I^2}$		$\frac{P}{I}$	
R&E		$\frac{E}{R}$		$\frac{E^2}{R}$
R&P		$\sqrt{\frac{P}{R}}$	\sqrt{PR}	
F&P	$\frac{E^2}{P}$	$\frac{P}{E}$		