

# ELECTRONICS CHEAT SHEET

## IMPERIAL & METRIC CONVERSION

Millimeters x 0.03937 = inches

Centimeters x 0.3937 = inches

Meters x 3.281 = feet

Kilometers x 0.6214 = miles

## METRIC POWERS OF A THOUSAND

<u>Amount</u>	<u>Multiplier</u>	<u>Prefix/Abbr</u>
Trillion	1,000,000,000,000	tera- (T)
Billion	1,000,000,000	giga- (G)
Million	1,000,000	mega- (M)
Thousand	1,000	kilo- (k)
Thousandth	0.001	milli- (m)
Millionth	0.000001	micro- ( $\mu$ /u)
Billionth	0.000000001	nano (n)
Trillionth	0.000000000001	pico (p)

## MISSING UNITS

<u>Type</u>	<u>Units</u>
Battery	volts (V)
Large capacitor	microfarads ( $\mu$ F)
Small capacitor	picofarads (pF)
Crystal	megahertz (MHz)
Inductor	henrys (H)
Oscillator	megahertz (MHz)
Potentiometer	ohms ( $\Omega$ )
Resistor	ohms ( $\Omega$ )

## UNIT ABBREVIATIONS

<u>Measurement</u>	<u>Units</u>	<u>Abbr</u>
Length	meter	m
Resistance	ohm	$\Omega$
Voltage	volt	V
Current	ampere or amp	A
Power	watt	W
Frequency	hertz	Hz
Capacitance	farad	F
Inductance	henry	G
Amplification	beta factor	$h_{FE}$ or $\beta$
Luminous intensity	candela	cd
Mass	gram	g
Torque	newton-meter	Nm
Capacity	amp-hour	Ah
Temperature	Celsius	$^{\circ}$ C
Rotational speed	revolution per min	rpm

## COLOR BAND VALUES

<u>Color</u>	<u>1st Band</u>	<u>2nd Band</u>	<u>3rd Band</u>
Black	0	0	x1
Brown	1	1	x10
Red	2	2	x100
Orange	3	3	x1,000
Yellow	4	4	x10,000
Green	5	5	x100,000
Blue	6	6	x1,000,000
Violet	7	7	...
Gray	8	8	...
White	9	9	...

## COLOR TOLERANCE BANDS

<u>Color</u>	<u>Tolerance</u>
(none)	20%
Silver	10%
Gold	5%
Red	2%
Brown	1%