

Common Components

Resistors (5%)

<u>value</u>	<u>range</u>
10	33
11	36
12	39
13	43
15	47
16	51
18	56
20	62
22	68
24	75
27	82
30	91

10Ω
to
680KΩ

Capacitors

<u>value</u>	<u>range</u>
1.0	
1.5	value x 1pF
2.2	to
3.3	value x 10 ³ uF
4.7	
6.8	

Power Transformers

<u>Secondary voltage (rms)</u>	
5	14
6.3	18
8	24
10	28
12	60

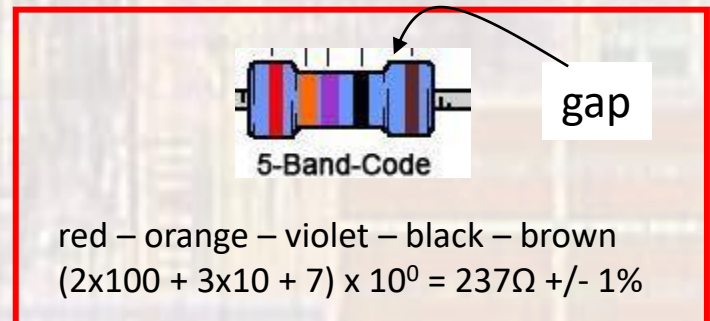
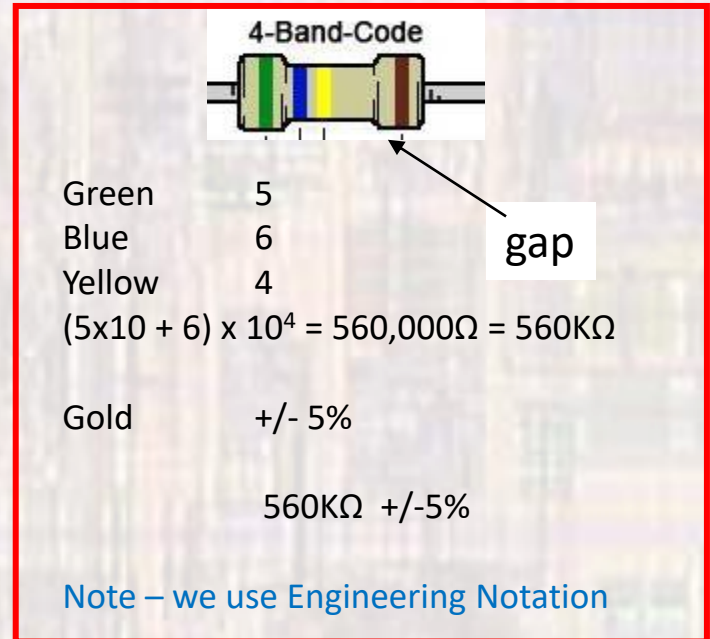
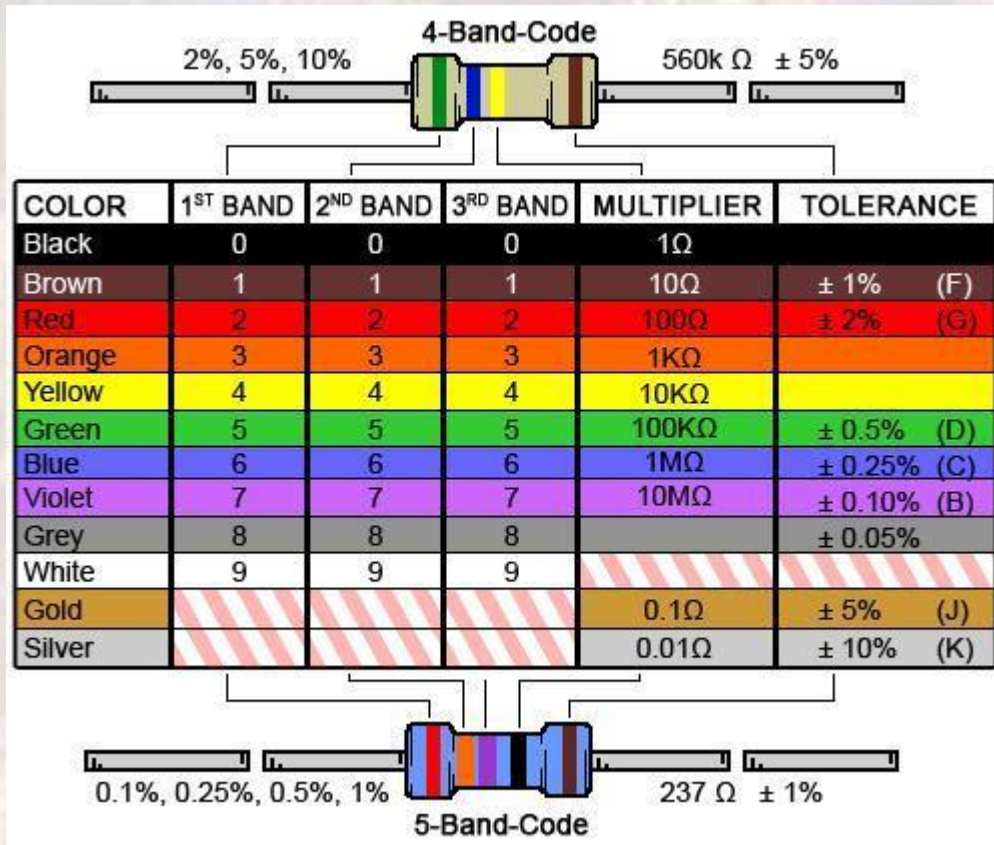
Inductors

<u>value</u>	<u>range</u>
1.0	3.6
1.1	3.9
1.2	4.3
1.3	4.7
1.5	5.1
1.6	5.6
1.8	6.2
2.0	6.8
2.2	7.5
2.4	8.2
2.7	8.7
3.0	9.1
3.3	

value x 1nH
to
value x 10³uH

Resistor Values

- Color Chart
 - Count the number of bands on the resistor first (4 or 5)



Capacitor Values

- Value Chart
 - Values are coded in pF for Ceramic capacitors

Ceramic Capacitor

Symbol (Non-Polarized)

Electrolytic Capacitor

Symbol (Polarized)

Capacitance Conversion Values

Microfarads (μF)	Nanofarads (nF)	Picofarads (pF)
0.000001 μF	0.001 nF	1 pF
0.00001 μF	0.01 nF	10 pF
0.0001 μF	0.1 nF	100 pF
0.001 μF	1 nF	1,000 pF
0.01 μF	10 nF	10,000 pF
0.1 μF	100 nF	100,000 pF
1 μF	1,000 nF	1,000,000 pF
10 μF	10,000 nF	10,000,000 pF
100 μF	100,000 nF	100,000,000 pF

Max. Operating Voltage

Code	Max. Voltage
1H	50V
2A	100V
2T	150V
2D	200V
2E	250V
2G	400V
2J	630V

Tolerance

Code	Percentage
B	± 0.1 pF
C	± 0.25 pF
D	± 0.5 pF
F	$\pm 1\%$
G	$\pm 2\%$
H	$\pm 3\%$
J	$\pm 5\%$
K	$\pm 10\%$
M	$\pm 20\%$
Z	+80%, -20%

Inductor Values

- Value Chart
 - Inductors use both the color code and numerical marking approach
 - The base value for inductance is μH
 - 104 marking $\rightarrow 10 \times 10^4 \mu\text{H} \rightarrow 100,000 \mu\text{H} \rightarrow 100\text{mH}$
 - Brown, Black, Red $\rightarrow 10 \times 10^2 \rightarrow 1000 \mu\text{H} = 1\text{mH}$