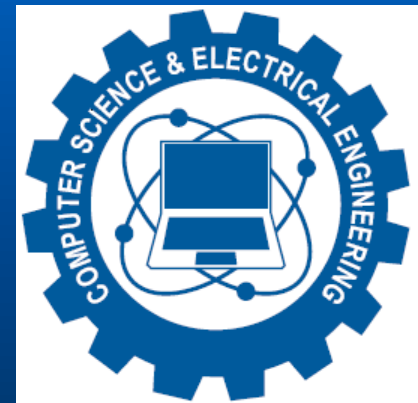


# *Resistor Color Code*



# *What is resistor color code?*

- **visual method used to identify a resistor's size and precision**
- **makes use of 9 basic colors in form of colored rings call 'bands'**
- **can have 3 – 5 bands (3 and 4 are the standard)**

# *Reading the Colors*



# *Color Code (Standard 4 Band)*

- 1<sup>st</sup> Band: 1<sup>st</sup> number
- 2<sup>nd</sup> Band: 2<sup>nd</sup> number
- 3<sup>rd</sup> Band: multiplier (number of 0's after the 2<sup>nd</sup> number)
- 4<sup>th</sup> Band: tolerance (5%, 10%, 20%)

# *Color Code Special Rules*

- **Black will never be used in the 1<sup>st</sup> band**
- **no 4<sup>th</sup> band means 20%**
- **Silver or Gold in 3<sup>rd</sup> band means the resistor is a “fractional” resistor which means less than 10 (e.g. 4.5Ω, 3.1Ω, 6.7Ω, etc.)**

# Color Code Chart

BAND 1 1 <sup>ST</sup> DIGIT		BAND 2 2 <sup>ND</sup> DIGIT		BAND 3 MULTIPLIER		BAND 4 TOLERANCE	
<i>Color</i>	<i>Digit</i>	<i>Color</i>	<i>Digit</i>	<i>Color</i>	<i>Multiplier</i>	<i>Color</i>	<i>Tolerance</i>
Black	0	Black	0	Black	1	Silver	±10%
Brown	1	Brown	1	Brown	10	Gold	±5%
Red	2	Red	2	Red	100	NONE	±20%
Orange	3	Orange	3	Orange	1000		
Yellow	4	Yellow	4	Yellow	10,000		
Green	5	Green	5	Green	100,000		
Blue	6	Blue	6	Blue	1,000,000		
Violet	7	Violet	7	Silver	0.01		
Gray	8	Gray	8	Gold	0.1		
White	9	White	9				