

Automotive Technology

Resistor Calculations Table

Name _____ Date _____ Period _____

(USE BACK OF THIS SHEET FOR MATH CALCULATIONS)

	1 st Band	2 nd Band	3 rd Band	4 th Band	Ohms Value	Tolerance	Low -10% Tolerance	High +10% Tolerance
1.	Brown	Red	Brown	Silver	120	12	108	132
*2.	Brown	Grey	Red	Gold	<i>See Example Below</i>			
3.	Black	Black	Red	Silver				
4.	Blue	Green	Green	Silver				
5.	Green	Red	Brown	Silver				
6.	Orange	Black	Blue	Silver				
7.	Yellow	Blue	Red	Silver				
8.	Red	Red	Red	Silver				
9.	Brown	Red	Black	Silver				
10.	Yellow	Brown	Red	Silver				
11.	Red	Red	Brown	Gold				
12.	Violet	Yellow	Red	Gold				
13.	Brown	Blue	Orange	Gold				
14.	Brown	Orange	Red	Gold				
15.	Orange	Blue	Blue	Gold				
16.	Green	Red	Brown	Gold				
17.	Orange	Black	Blue	Gold				
18.	Red	Red	Brown	Silver				
19.	Violet	Yellow	Red	Silver				
20.	Brown	Blue	Orange	Silver				

0 = Black 1 = Brown 2 = Red 3 = Orange 4 = Yellow 5 = Green 6 = Blue 7 = Violet 8 = Grey 9 = White		<u>Tolerance</u> Gold = $\pm 5\%$ Silver = $\pm 10\%$ None = $\pm 20\%$	<div style="text-align: center;">* Example</div> A resistor has the following color bands: Brown-Grey-Red-Gold <table border="1" style="width: 100%; text-align: center;"> <tr> <td>Brown=1</td><td>Grey = 8</td><td>Red =2</td><td>Gold= $\pm 5\%$</td></tr> <tr> <td>1st Digit</td><td>2nd Digit</td><td># 0's -</td><td>Tolerance</td></tr> <tr> <td><u>1</u></td><td><u>8</u></td><td><u>00</u></td><td>$\pm 5\% \Omega$</td></tr> </table> <p> 1800 Ohms x 5% = 90 Ohms (Variance) 1800 + 90 = 1890 and 1800 – 90 = 1710 So the resistor should measure between 1710 ohms (low) - 1890 ohms (high) </p>	Brown=1	Grey = 8	Red =2	Gold= $\pm 5\%$	1 st Digit	2 nd Digit	# 0's -	Tolerance	<u>1</u>	<u>8</u>	<u>00</u>	$\pm 5\% \Omega$
Brown=1	Grey = 8	Red =2	Gold= $\pm 5\%$												
1 st Digit	2 nd Digit	# 0's -	Tolerance												
<u>1</u>	<u>8</u>	<u>00</u>	$\pm 5\% \Omega$												

Resistor Chart / 10-19-09/ vdb