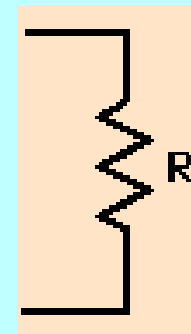
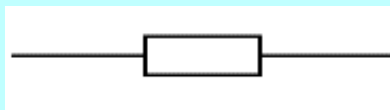




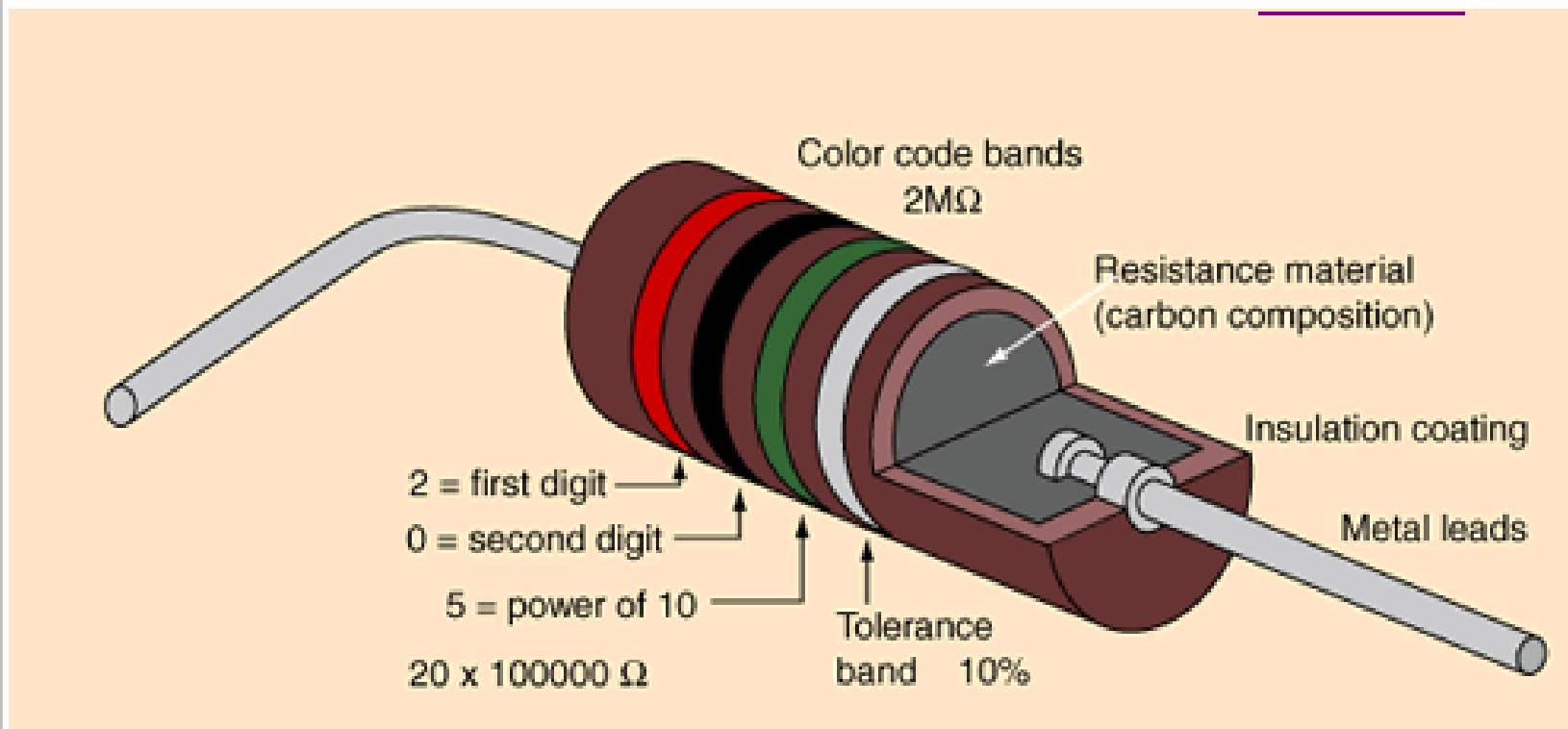
# Resistors



# Resistors

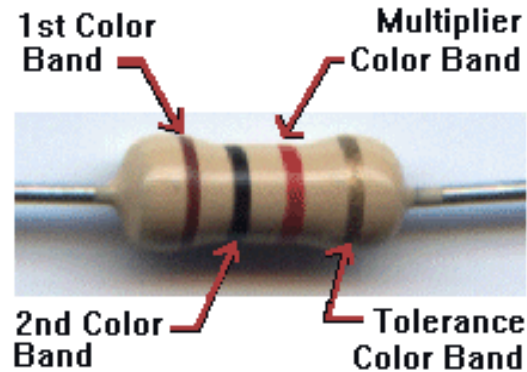
purpose

Value



# Resistor Code

Bad Beer rots our young guts but vodka goes well



The Resistor Colour Code	
Colour	Number
Black	0
Brown	1
Red	2
Orange	3
Yellow	4
Green	5
Blue	6
Violet	7
Grey	8
White	9

1st band    1st digit  
(closest to the edge)

2nd band    2nd digit

3rd band    Multiplier band

4th band    Tolerance band

5th band (if present)    Reliability band

Color	1 <sup>st</sup> band	2 <sup>nd</sup> band	3 <sup>rd</sup> band (multiplier)	4 <sup>th</sup> band (tolerance)	Temp. Coefficient
Black	0	0	$\times 10^0$		
Brown	1	1	$\times 10^1$	$\pm 1\%$ (F)	100 ppm
Red	2	2	$\times 10^2$	$\pm 2\%$ (G)	50 ppm
Orange	3	3	$\times 10^3$		15 ppm
Yellow	4	4	$\times 10^4$		25 ppm
Green	5	5	$\times 10^5$	$\pm 0.5\%$ (D)	
Blue	6	6	$\times 10^6$	$\pm 0.25\%$ (C)	
Violet	7	7	$\times 10^7$	$\pm 0.1\%$ (B)	
Gray	8	8	$\times 10^8$	$\pm 0.05\%$ (A)	
White	9	9	$\times 10^9$		
Gold			$\times 0.1$	$\pm 5\%$ (J)	
Silver			$\times 0.01$	$\pm 10\%$ (K)	
None				$\pm 20\%$ (M)	



1st

2nd

3rd

4th

<http://www.members.optusnet.com.au/ncrick/converters/resistor.html>



1. Red, blue, green

---

2. Red, red, black

---

3. Green, red, brown

---

4. Violet, orange, orange

---

5. Blue, black, black

---

6. Red, green, green

---

7. Gray, violet, red

---

8. Yellow, brown, yellow

---

9. Orange, red, red

---

10. Orange, orange, orange

---

## Resistor shorthand

Resistor values are often written on circuit diagrams using a code system which avoids using a decimal point because it is easy to miss the small dot. Instead the letters R, K and M are used in place of the decimal point. To read the code: replace the letter with a decimal point, then multiply the value by 1000 if the letter was K, or 1000000 if the letter was M. The letter R means multiply by 1.

For example:

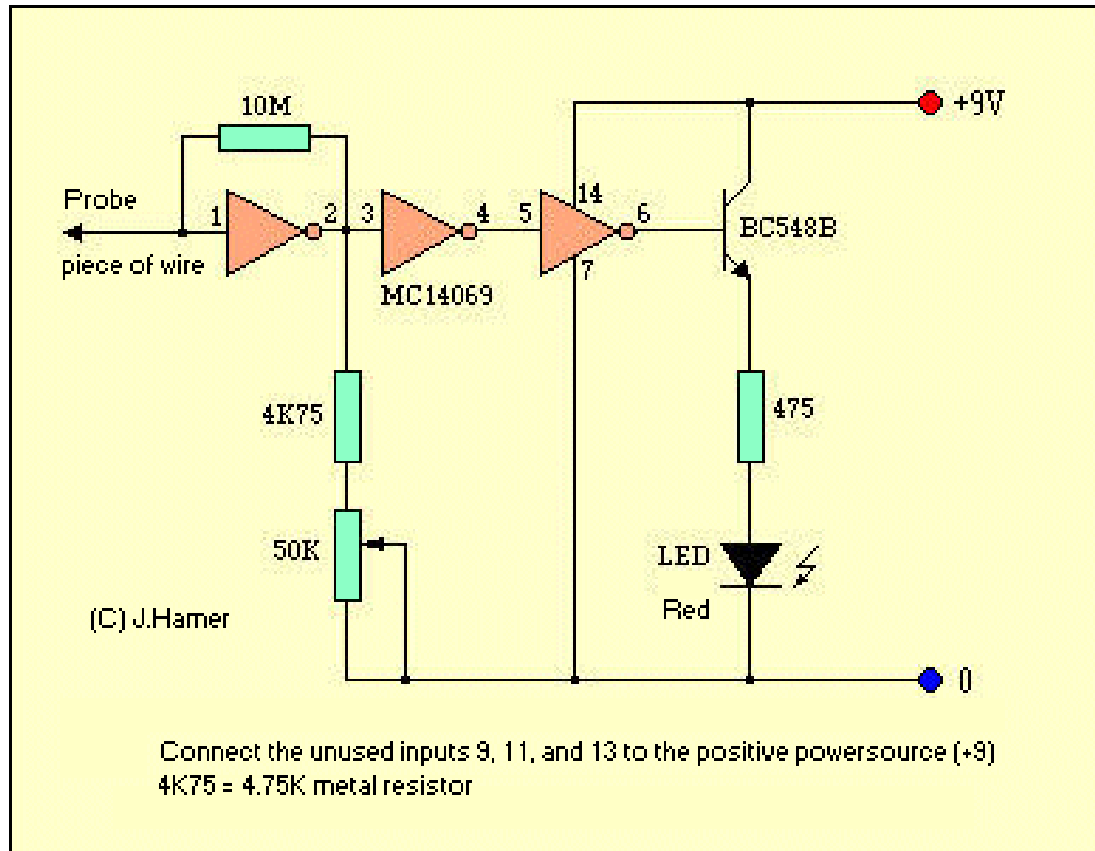
560R means 560  $\Omega$

2K7 means 2.7 k $\Omega$  = 2700  $\Omega$

39K means 39 k $\Omega$

1M0 means 1.0 M $\Omega$  = 1000 k $\Omega$

# Schematic example



christmas light tester