

Color Code for Resistors and Capacitors

Resistor color code

As usual a resistor is marked by four or five ring strips. Since you can find out the value of the resistors at any installation of this one on a printed-circuit-board. Read

value of the resistor from the end with a narrow strip in Ohms. Read a wide strip the last. **Table 1** shows the decoding of the color marks for resistors. Up to multiplier marks are given in Ohms.

Table 1 Resistor color code

Mark color	1 mark	2 mark	3 mark	Multiplier	Tolerance, %
silver	-	-	-	10^{-2}	10
gold	-	-	-	10^{-1}	5
black	-	0	-	1	-
brown	1	1	1	10	1
red	2	2	2	10^2	2
orange	3	3	3	10^3	-
yellow	4	4	4	10^4	-
green	5	5	5	10^5	0,5
blue	6	6	6	10^6	0,25
violet	7	7	7	10^7	0,1
grey	8	8	8	10^8	0,05
white	9	9	9	10^9	-

Capacitor color code

Recently capacitors as well as resistors have color marks. However different types of capacitors can have different color strips or points at the body. **Figure 1** shows examples of color marks for several types of modern capacitors.

Capacity is specified by two first colors (strip or points) in pF. After that the multiplier shows value of the capacitor. Tolerance, working voltage and also can be specified if it is necessary. **Table 2** shows capacitor color marks.

Table 3 shows lighting calculator for capacitors

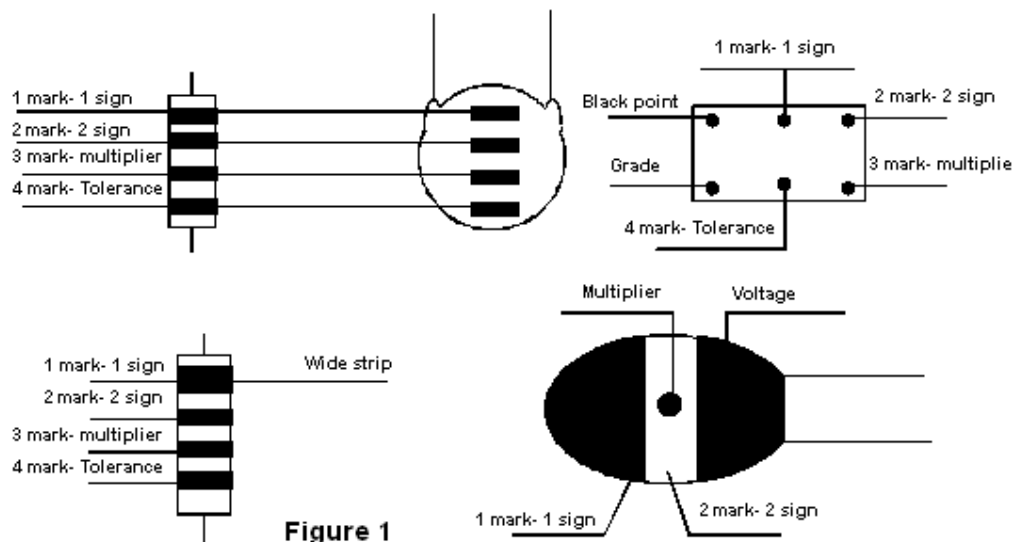


Figure 1

Table 2 Capacitor color mark

Mark color	1 mark	2 mark	Multiplier	Tolerance, %	Voltage, V
black	0	0	1	20	4
brown	1	1	10	1	6,3
red	2	2	10 ²	2	10
orange	3	3	10 ³	0,25	16
yellow	4	4	10 ⁴	0,5	40
green	4	5	10 ⁵	5	20
blue	6	6	10 ⁶	-	30
violet	7	7	10 ⁷	+50/-20	50
grey	8	8	10 ⁸	+80/-20	3,2
white	9	9	-	-	63
silver	-	-	-	-	2,5
gold	-	-	-	-	1,6

Table 3 lighting calculator for capacitors

Value of capacity (μF)	1 mark	2 mark	3 mark (Multiplier)
0,010	brown	black	orange
0,015	brown	green	orange
0,022	red	red	orange
0,033	orange	orange	orange
0,047	yellow	violet	orange
0,068	blue	grey	orange
0,10	brown	black	yellow
0,15	brown	green	yellow
0,22	red	red	yellow
0,33	orange	orange	yellow
0,47	yellow	violet	yellow
0,68	blue	grey	yellow
1,0	brown	black	green
2,2	red	red	green

