

### Standard Decade Values

The figures shown below are the series of preferred values in accordance with BS288 and IEC Pub 63.

Decade (mod10) multiples and submultiples shown.

<b>E6</b>	10	15	22	33	47	68						
<b>E12</b>	10	12	15	18	22	27	33	39	47	56	68	82
<b>E24</b>	10	11	12	13	15	16	18	20	22	24	27	30
	33	36	39	43	47	51	56	62	68	75	82	91
<b>E48</b>	100	105	110	115	121	127	133	140	147	154	162	169
	178	187	196	205	215	226	237	249	261	274	287	301
	316	332	348	365	383	402	422	442	464	487	511	536
	562	590	619	649	681	715	750	787	825	866	909	953
<b>E96</b>	100	102	105	107	110	113	115	118	121	124	127	130
	133	137	140	143	147	150	154	158	162	165	169	174
	178	182	187	191	196	200	205	210	215	221	226	232
	237	243	249	255	261	267	274	280	287	294	301	309
	316	324	332	340	348	357	365	374	383	392	402	412
	422	432	442	453	464	475	487	499	511	523	536	549
	562	576	590	604	619	634	649	665	681	698	715	732
	750	768	787	806	825	845	866	887	909	931	953	976

## Resistor Colour Code Chart

### E24 Resistance Color Code (Carbon Film Resistors)

Color	1st. Ring	2nd. Ring	3rd. Ring	4th. Ring
	1st. Value	2nd. Value	Multiplier	Tolerance
None	-	-	-	20%
Silver	-	-	-	10%
Gold	-	-	0,1	5%
Black	-	-	1	-
Brown	1	1	10	-
Red	2	2	100	-
Orange	3	3	1000	-
Yellow	4	4	10.000	-
Green	5	5	100.000	-
Blue	6	6	1.000.000	-
Violet	7	7	10.000.000	-
Gray	8	8	100.000.000	-
White	9	9	1.000.000.000	-

### E96 Resistance Color Code (Metal Film Resistors)

Color	1st. Ring	2nd. Ring	3rd. Ring	4th. Ring	5ft. Ring
	1st. Value	2nd. Value	3rd. Value	Multiplier	Tolerance
None	-	-	-	-	-
Silver	-	-	-	-	-
Gold	-	-	-	0,1	-
Black	-	-	-	1	-
Brown	1	1	1	10	1%
Red	2	2	2	100	2%
Orange	3	3	3	1000	-
Yellow	4	4	4	10.000	-
Green	5	5	5	100.000	0,5%
Blue	6	6	6	1.000.000	-
Violet	7	7	7	10.000.000	-
Gray	8	8	8	100.000.000	-
White	9	9	9	1.000.000.000	-

### BS1852 Resistance Code

Example: 0,47 Ohm is marked R47  
1 Ohm is marked 1R  
4,7 Ohm is marked 4R7  
47 Ohm marked 47R

100 Ohm is marked 100R  
1 kOhm is marked 1k  
10 kOhm is marked 10k  
10 Mohm is marked 10M

...after this is added a letter to indicate tolerance:

F = 1%  
G = 2%  
J = 5%  
K = 10%  
M = 20%

Thus: 6k8 J = 6.8 kOhm 5%

### **Resistor Colour Code**



		1. Ring	2. Ring	3. Ring	4. Ring
Color		Value	Value	Multiplier	Tolerance
Silver	■			0,01	10 %
Gold	■			0,1	5 %
Black	■		0	1	
Brown	■	10	1	10	
Red	■	20	2	100	
Orange	■	30	3	1000	
Yellow	■	40	4	10000	
Green	■	50	5	100000	
Blue	■	60	6	1000000	
Violet	■	70	7	10000000	
Grey	■	80	8		
White	■	90	9		

1 MR = 1000 kR = 1000000 R : 1 kR = 0,001 MR = 1000 R : 1 R = 0,001 kR = 0,000001 MR

Sample: 1. Ring - green = 50  
 2. Ring - blue = 6  
 3. Ring - orange = 1000  
 4. Ring - gold = 5 %

Resistor value = (Ring 1 + Ring 2) x Ring 3

Resistor value = ( 50 + 6 ) x 1000

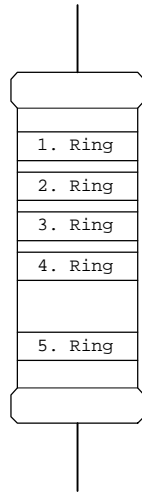
Resistor value = 56 x 1000

Resistor value = 56000 R

= 56 kR

+/- 5 %

## Resistor Colour Code (E24)



	1. Ring	2. Ring	3. Ring	4. Ring	5. Ring
Color	Value	Value	Value	Multiplier	Tolerance
Silver				0,01	
Gold				0,1	
Black		0	0	1	
Brown	100	10	1	10	1 %
Red	200	20	2	100	2 %
Orange	300	30	3	1000	
Yellow	400	40	4	10000	
Green	500	50	5	100000	
Blue	600	60	6	1000000	
Violet	700	70	7	10000000	
Grey	800	80	8		
White	900	90	9		

1 MR = 1000 kR = 1000000 R : 1 kR = 0,001 MR = 1000 R : 1 R = 0,001 kR = 0,000001 MR

Sample:

1. Ring - blue	=	600
2. Ring - grey	=	80
3. Ring - brown	=	1
4. Ring - red	=	100
5. Ring - brown	=	1 %

Resistor value = (Ring 1 + Ring 2 + Ring 3) x Ring 4

Resistor value = ( 600 + 80 + 1 ) x 100

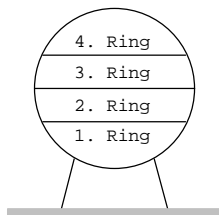
Resistor value = 681 x 100













Resistor value = 68100 R

= 68,1 kR

+/- 1 %

## Resistor Colour Code (E96)



	1. Ring	2. Ring	3. Ring	4. Ring
Color	Value	Value	Multiplier	Tolerance
Silver 			0,01	10 %
Gold 			0,1	5 %
Black 		0	1	
Brown 	10	1	10	
Red 	20	2	100	
Orange 	30	3	1000	
Yellow 	40	4	10000	
Green 	50	5	100000	
Blue 	60	6	1000000	
Violet 	70	7	10000000	
Grey 	80	8		
White 	90	9		

1 MR = 1000 kR = 1000000 R : 1 kR = 0,001 MR = 1000 R : 1 R = 0,001 kR = 0,000001 MR

Sample:      1. Ring - yellow = 40  
                  2. Ring - violet = 7  
                  3. Ring - red = 100  
                  4. Ring - silver = 10 %

Resistor value = (Ring 1 + Ring 2) x Ring 3

Resistor value = ( 40 + 7 ) x 100

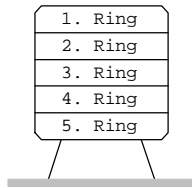
Resistor value = 47 x 100

Resistor value = 4700 R

= 4k7

+/- 10 %

## NTC-Resistor Colour Code (E24) (NTC-thermistor)



	1. Ring	2. Ring	3. Ring	4. Ring	5. Ring
Color	Value	Value	Multiplier	Tolerance	Voltage
Silver			0,01	10 %	
Gold			0,1	5 %	
Black		0	1		
Brown	10	1	10		
Red	20	2	100		250 V
Orange	30	3	1000		
Yellow	40	4	10000		400 V
Green	50	5	100000		100 V
Blue	60	6	1000000		630 V
Violet	70	7	10000000		
Grey	80	8			
White	90	9			

1  $\mu\text{F}$  = 1000 nF = 1000000 pF : 1 nF = 0,001  $\mu\text{F}$  = 1000 pF : 1 pF = 0,001 nF = 0,000001  $\mu\text{F}$

Sample:

1. Ring - red	=	20
2. Ring - violet	=	7
3. Ring - yellow	=	10.000
4. Ring - silver	=	10 %
5. Ring - green	=	100 V

Capaciter value = (Ring 1 + Ring 2) x Ring 3

Capaciter value = ( 20 + 7 ) x 10000

Capaciter value = 27 x 10000

Capaciter value = 270000 pF

= 270 nF

= 0,27  $\mu\text{F}$

+/- 10 %

100 Volt

## Capaciter Colour Code