



(Resistor, Resistance)

가?

, 가

가

가

가

가

가

(電子

Electron)

1
1[A]

6.28*10E+18

가

1

(Ampere)가

가

(Resistance)

4가

.(

가

가

가

가

가

() = () * () / ()

가

가

가

가

가

가
(Conductor)

(Insulator)

가

(Joule)

가

() = () * ()

()

가



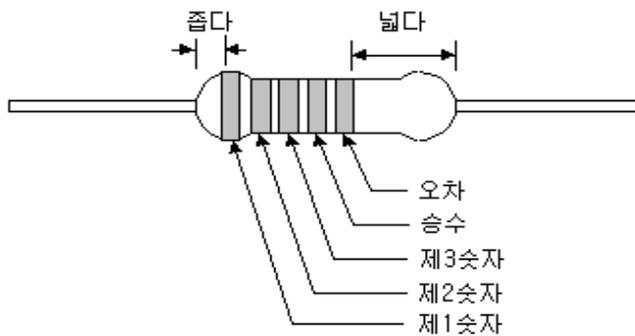
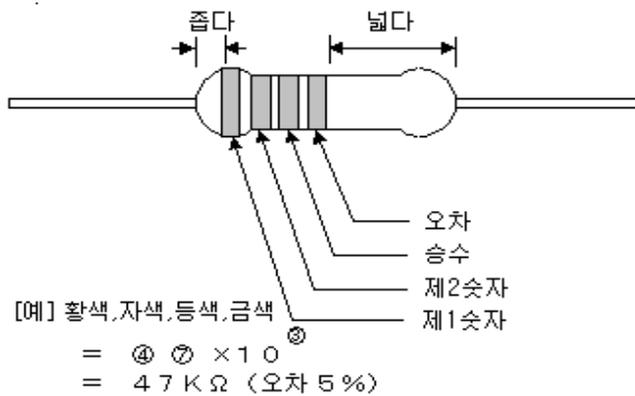
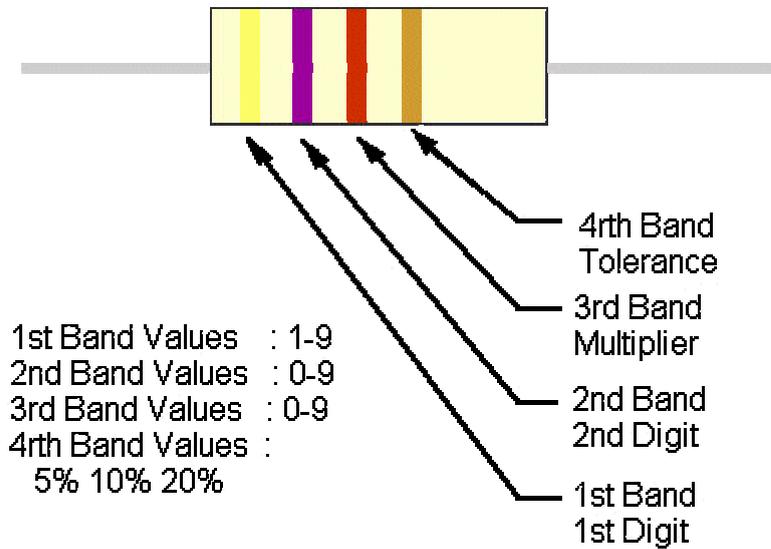
$\text{---}\omega\text{---}$ R ohm (Ohm: ohm(:))
 1V 가 1A 가 1 , 1000 1k
 () , 1000k 1M (가)
 가 (W:) 가 (I2) × (R)
 가 1/8W, 1/4W, 1/2W
 (amp) 1/8W 1/4W 가

, KS : JIS (?) , KS JIS
 JIS 10 JIS C5001 E

			()	
	0	0	10^0	
	1	1	10^1	
	2	2	10^2	
	3	3	10^3	
	4	4	10^4	
	5	5	10^5	
	6	6	10^6	
	7	7	10^7	
	8	8	10^8	
	9	9	10^9	
				± 5%
				± 10%
				± 20%

$27 \times 10 = 270$, =2, =7, =1, = ± 5 % , , ,
 ± 5 %가

4 Band Resistor Color Code Layout



가

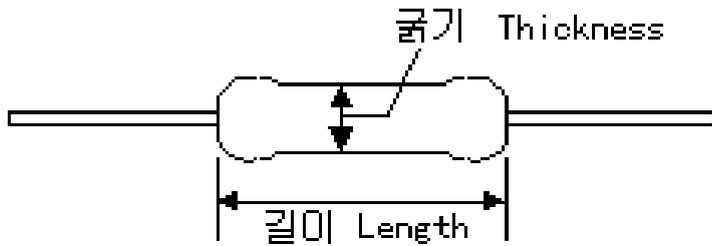
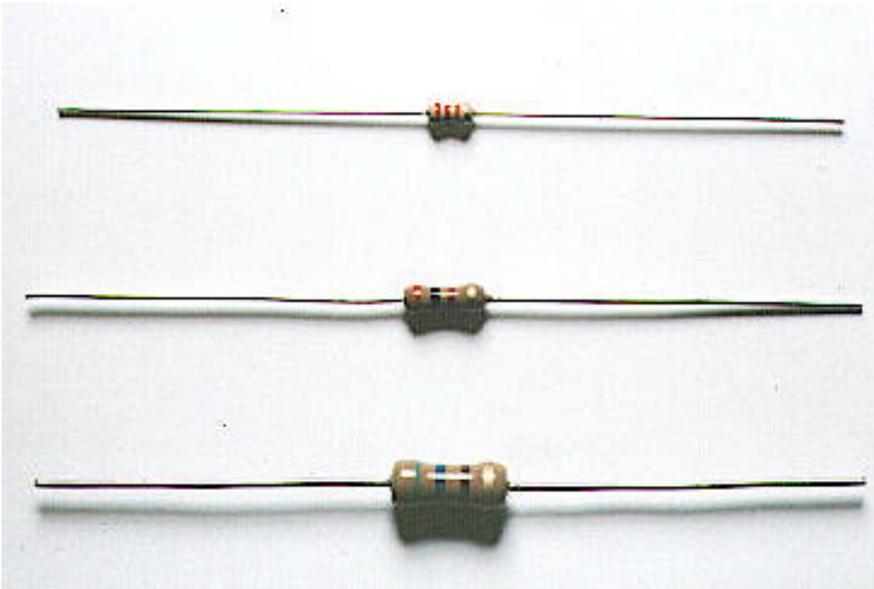
1)

가 가

1/8W, 1/4W, 1/2W

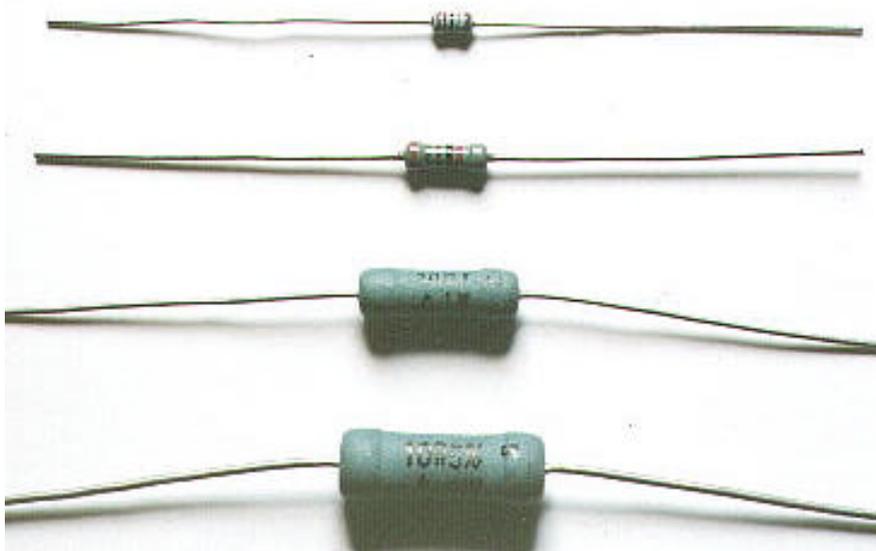
가 . ± 5%

가
 가



(W)	(mm)	(mm)
1/8	2	3
1/4	2	6
1/2	3	9

2) : 가 가 가 $\pm 0.05\%$
 . 가 $\pm 1\%$;
 Ni-Cr() ,



1/8 W	$\pm 5\%$
1/4 W	$\pm 5\%$
1 W	$\pm 5\%$
2 W	$\pm 5\%$

3)

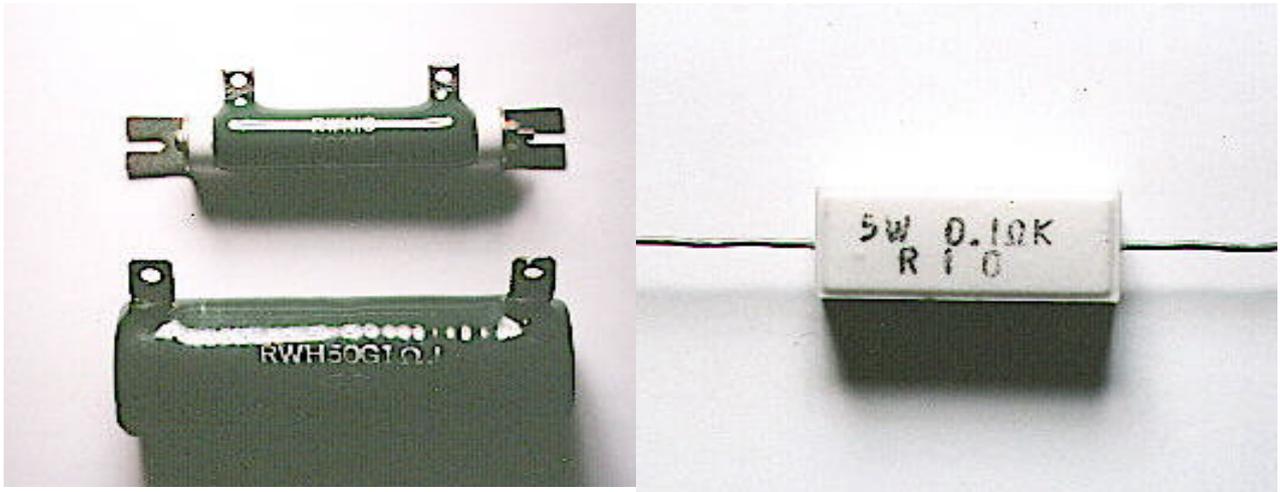
4)

5)

() :

가 가

가



() 10W

() 50W

5W

가
가



가
가

가
300
가

(1)

가 :

...

(2)

가 :

(3)

가

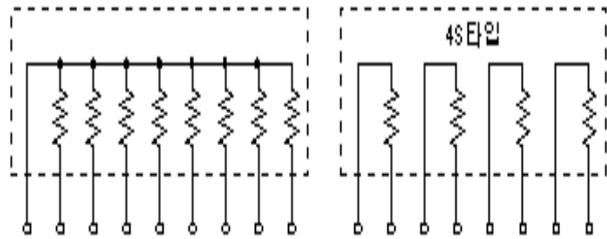
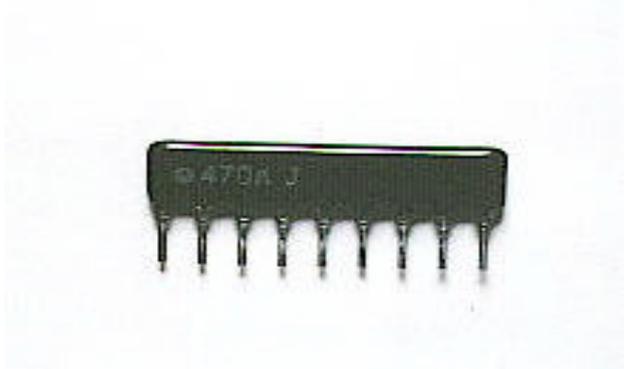
(4)

가 : , , 가 ..

가 0.01 1012 , 1/8 250W(watt), 0.005 20%
set carbon solid 1/4 1/2 W, 1 100M ,5% or 10%

(5)

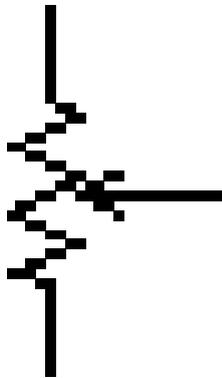
LED 가
4S (COMMON)
4 가



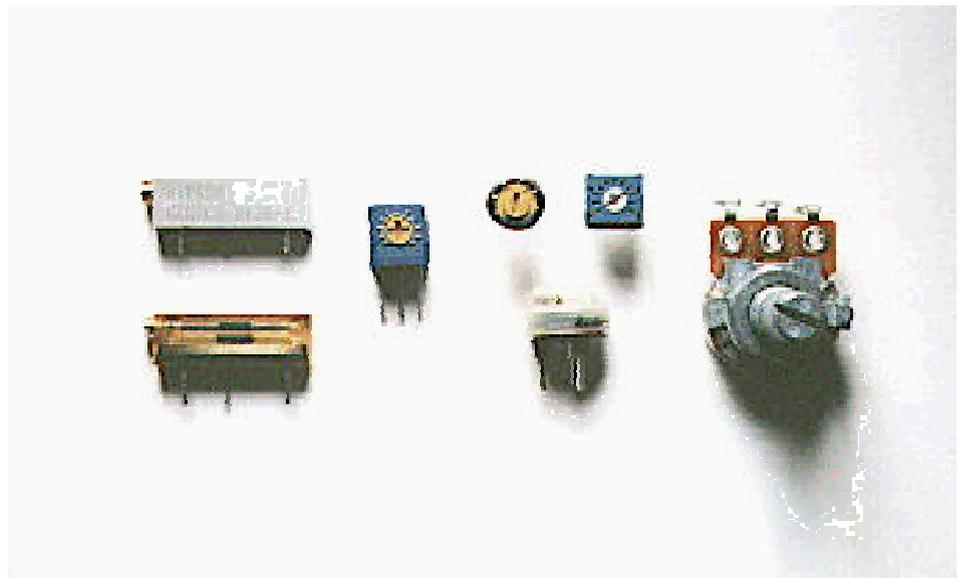
(COMMON) 가
1/8W Size 4S LED 가
4

(6)가
가 (variable ohm)

(adjust: ADJ) 가
(potentiometer) (gear) 가 300
(10 25) 가

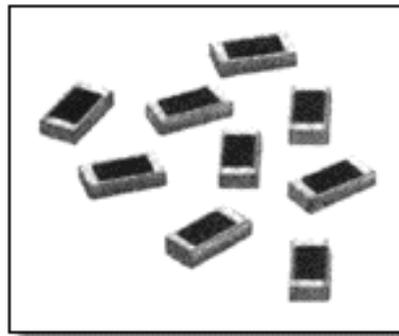


가



가

[Thick Film Chip Resister]



[Chip]

