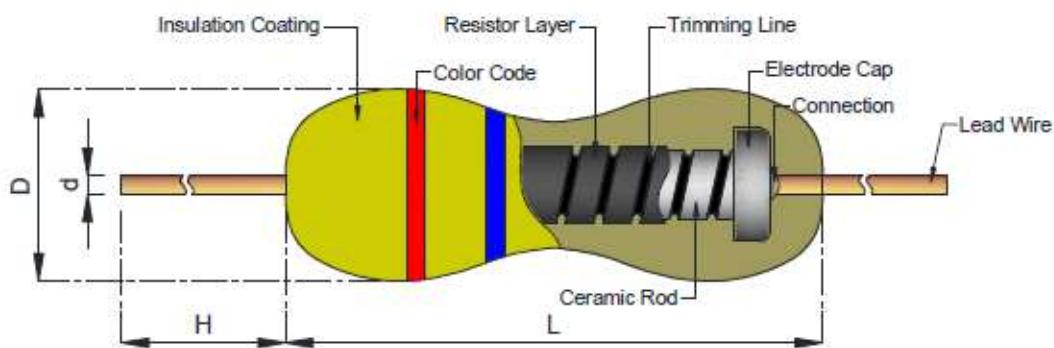


Carbon Film Fixed Resistors

● PRODUCT FEATURES :

1. LOWEST COST · PROMPT DELIVERY
2. EXCELLENT LONG TERM STABILITY
3. WIDE RESISTANCE RANGE 0Ω ~ $22M\Omega$
4. POWER RATINGS $1/8W$ ~ $3W$ s

● POWER RATINGS DIMENSIONS



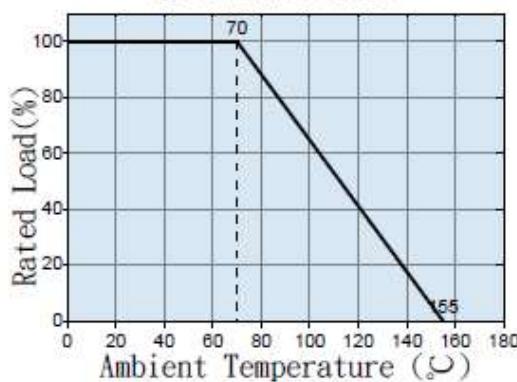
STYLE		DIMENSIONS(mm)					Comment
Normal	Miniature	L	D	H	d		
RC-1/8W	CF1/4W _s	3.3	^{+0.4} _{-0.2}	1.8 ± 0.3	29 ± 2.0	0.4 ± 0.05	
RC-1/8W			^{+0.7} _{-0.2}	1.8 ± 0.3	29 ± 2.0	0.4 ± 0.05	
RC-1/4W	CF1/2W _{ss}	3.3	^{+0.7} _{-0.2}	1.8 ± 0.3	29 ± 2.0	0.4 ± 0.05	
			6.3 ± 0.5	2.3 ± 0.3	28 ± 2.0	0.5 ± 0.05	
RC-1/3W	CF1/2W _s	8.5	±0.5	2.7 ± 0.5	27 ± 2.0	0.5 ± 0.05	
RC-1/2W			9.0 ± 0.5	3.2 ± 0.5	26 ± 2.0	$0.590.05$	
RC-1W	CF2W _s	11.5 ± 1.0	4.5 ± 0.5	35 ± 2.0	0.76 ± 0.05		
RC-2W	CF3W _s	15.5 ± 1.0	5.0 ± 0.5	32 ± 2.0	0.76 ± 0.05		

● ELECTRICAL CHARACTERISTICS

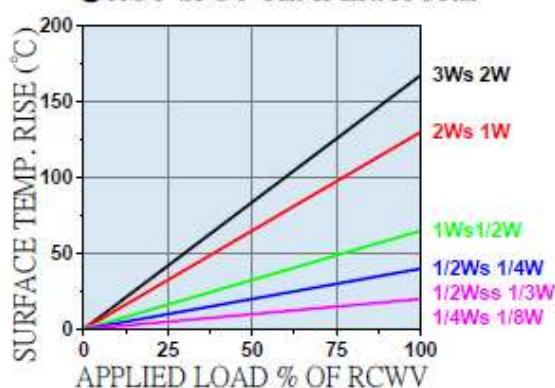
Power rating at 70°C	1/8W	1/4W _s	1/2W _{ss}	1/4W	1/2W _s	1/3W	1/2W _s	1/2W	1W _s	1W	2W _s	2W	3W _s
Body Size	3.3 ± 1.8	3.3 ± 1.8	3.3 ± 1.8	6.3 ± 2.3	6.3 ± 2.3	8.5 ± 2.7	6.3 ± 2.3	9 ± 3.2	9 ± 3.2	11.5 ± 4.5	11.5 ± 4.5	15.5 ± 5	15.5 ± 5
Operating Temp. Range													
Max. Working Voltage	150V	200V	280V	250V	300V	280V	320V	350V	400V	450V	500V	500V	500V
Max. Overload Voltage	300V	400V	500V	500V	500V	500V	600V	700V	800V	1000V	1000V	1000V	1000V
Dielectric Withstanding voltage	300V	400V	400V	500V	500V	500V	600V	700V	800V	1000V	1000V	1000V	1000V
Value Range ±5%	0.1Ω~0.68Ω-E6 Series; 1Ω~22MΩ-E24 series												

Value Range for standard resistance · below or over this resistance on request.

● POWER GRAPH



● HOT-SPOT TEMPERATURE



● TEMPERATURE COEFFICIENT (T.C.R.)

STYLE	Max. Value of Temp. Coefficient ppm/°C				
	under 1Ω	1Ω to 100KΩ	100KΩ to 1MΩ	1MΩ to 4MΩ	
RC	1W.2W.2WS.3WS	±1500 ppm	±350 ppm	-0ppm -500ppm	-0ppm -1000ppm
	1/8W.1/4W.1/4WS 1/2W.1/2WS.1WS	±1500 ppm	+350ppm- 500ppm	-0ppm-700ppm	-0ppm-1500ppm

● ENVIRONMENTAL CHARACTERISTICS.

PERFORMANCE TEST	TEST METHOD	APPRAISE
SHORT TIME OVERLOAD	JIS-C-5202 5.5 2.5 times RCWV for 5 seconds	±(0.75%+0.05Ω)
TEMPERATURE COEFFICIENT(T.C.R.)	Resistance value at room Temperature and room Temperature+100°C	page
DIELECTRIC WITHSTANDING VOLTAGE	JIS-C-5202 5.7 In V-Block for 60 seconds	By Type
PULSE OVERLOAD	JIS-C-5202 5.8 4 times RCWV for 1000cycles(1sec.on + 25secs.off)	±(1%+0.05Ω)
INSULATION RESISTANCE	JIS-C-5202 5.6 In V-Block	>10000MΩ
LOAD LIFE	JIS-C-5202 7.10 70°C at RCWV for 1000hrs.(1.5hrs. on + 0.5hrs.off)	±(3%+0.05Ω)
LOAD LIFE IN HUMIDITY	JIS-C-5202 7.9 40±2°C 90~95%RH at RCWV for 1000hrs. (1.5hrs. on + 0.5hrs.off)	Less than 100KΩ±3% 100KΩ or more±5%
SOLDER ABILITY	JIS-C-5202 6.5 260±5°C for 2±0.5 seconds	95% min. coverage
RESISTANCE TO SOLVENT	JIS-C-5202 6.9 Specimens shall be immersed in a bath of alcohol completely for 3 minutes using ultrasonic test equipment	No deterioration of coatings and markings
TERMINAL STRENGTH	Direct load for 10 sec. In the direction off the terminal leads.	Tensile: ≥2.5kg

★ Rated continuous Working Voltage (RCWV) = $\sqrt{\text{POWER.RATING} \times \text{RESISTANCE.VALUE}}$

Three Band Resistor Color Code

- The three band color code is very rarely used.
- The first band from the left indicates the first significant figure of the resistance.
- The second band indicates the second significant number.
- The third band indicates the multiplier.
- The tolerance for three band resistors is generally 20%.
- The color code table corresponding to three band resistors is shown below.

	1 st digit	2 nd digit	3 rd digit	multiply	tolerance	TCR (ppm/°C)
Black	0	0	0	1	1% (F)	100
Brown	1	1	1	10	2% (G)	50
Red	2	2	2	100		15
Orange	3	3	3	1K		25
Yellow	4	4	4	10K		
Green	5	5	5	100K	0.5% (D)	
Blue	6	6	6	1M	0.25% (C)	10
Violet	7	7	7	10M	0.1% (B)	5
Gray	8	8	8	100M	0.05% (A)	
White	9	9	9	1G		
Gold				0.1	5% (J)	
Silver				0.01	10% (K)	
None					20% (M)	

Three Band Resistor Color Code

For example if the colors on the resistor are in the order of Yellow, Violet and Red from left, then the resistance can be calculated as

$47 \times 102 \pm 20\%$. This is $4.7 \text{ K}\Omega \pm 20\%$.

This means the resistance value lies in the region of 3760Ω to 5640Ω .