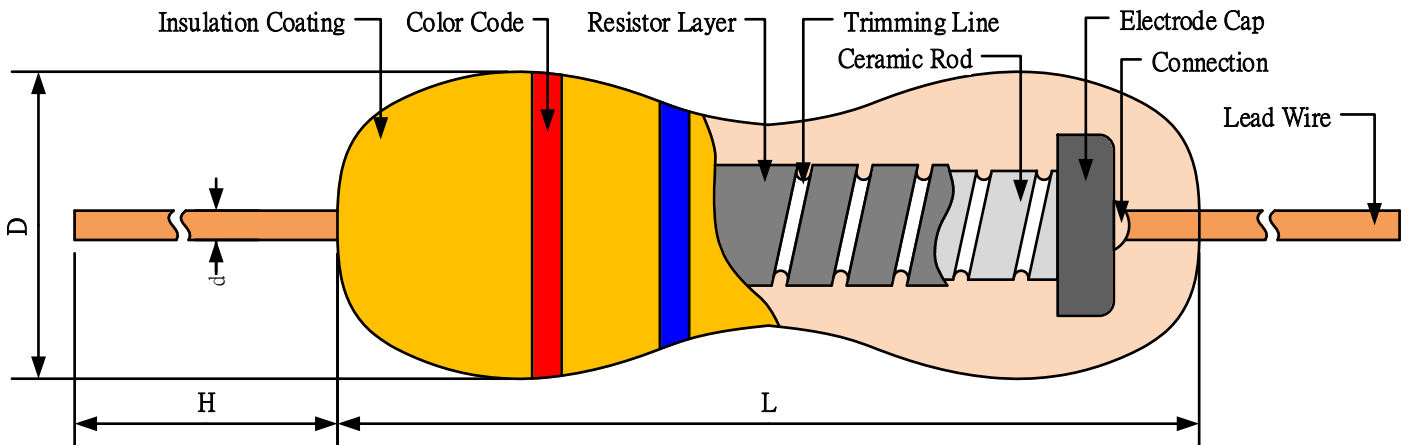


● **PRODUCT FEATURES :**

- ⊙ Lowest Cost , Prompt Delivery
- ⊙ Excellent Long Term Stability
- ⊙ Wide Resistance Range 0Ω 1~22M Ω
- ⊙ Coating And Marking Resist IPA , Freon , And Other Cleaning Agents

● **POWER RATINGS DIMENSIONS**

- ⊙ Normal Type: 1/8W ~2W
- ⊙ Miniature Type: 1/4WS~3WS



● **DIMENSIONS**

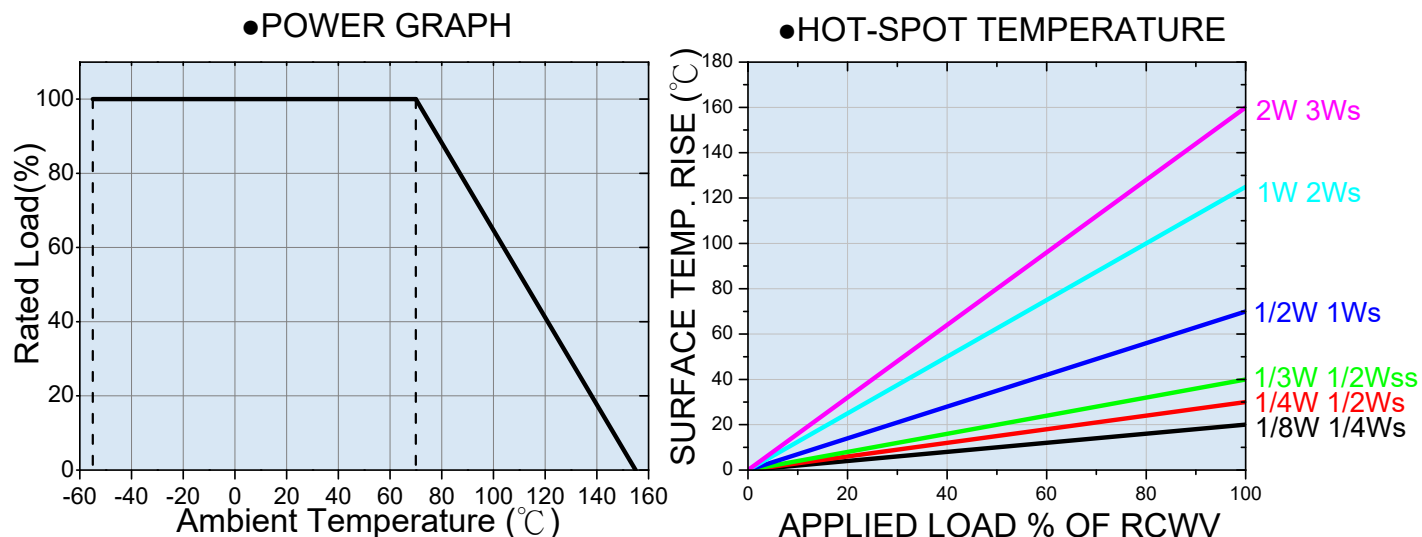
STYLE		DIMENSIONS(mm)				Comment
Normal	Miniature	L	D	H	d	
1/8W	1/4WS	3.3 ^{+0.7} _{-0.2}	1.8±0.3	29±3.0	0.45±0.03	
	0204 (0.4W)	3.3 ^{+0.7} _{-0.2}	1.8±0.3	29±3.0	0.45±0.03	
1/4W	1/2WS	6.3±0.5	2.3±0.3	28±3.0	0.55±0.03	
1/3W	1/2WSS	8.5±0.5	2.7±0.5	27±3.0	0.60±0.03	
1/2W	1WS	9.0±0.5	3.2±0.5	26±3.0	0.65±0.03	
1W	2WS	11.5±1.0	4.5±0.5	35±3.0	0.78±0.03	
2W	3WS	15.5±1.0	5.0±0.5	32±3.0	0.78±0.03	

● **ELECTRICAL CHARACTERISTICS**

Power rating at 70°C	1/8W	1/4WS	0204	1/4W	1/2WS	1/3W	1/2WSS	1/2W	1WS	1W	2WS	2W	3WS
Operating Temp. Range	-55°C to +155°C												
Max. Working Vol.	150V	200V	250V	250V	300V	320V	320V	350V	400V	450V	500V	500V	500V
Max. Overload Vol.	300V	400V	500V	500V	500V	500V	600V	700V	800V	1000V	1000V	1000V	1000V
Dielectric Withstanding Vol.	300V	400V	400V	500V	500V	500V	600V	700V	800V	1000V	1000V	1000V	1000V
Value Range , ±5%	0.1 Ω ~0.68 Ω -E6 Series; 1 Ω ~22M Ω -E24 series												

Rated continuous Working Voltage (RCWV) = $\sqrt{\text{Power. Rating} \times \text{Resistance. Value}}$.

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



● **TEMPERATURE COEFFICIENT (T.C.R.)**

STYLE	Max. Value of Temp. Coefficient ppm/°C			
	under 1Ω	1Ω to 100KΩ	100KΩ to 1MΩ	1MΩ to 4M7Ω
1W.2Ws.2W. 3Ws	±1500 ppm	±350 ppm	-0ppm -500ppm	-0ppm -1000ppm
1/8W.1/4Ws.1/4W.1/3W. 1/2Wss.1/2Ws.1/2W.1WS	±1500 ppm	+350ppm- 500ppm	-0ppm-700ppm	-0ppm-1500ppm

● **ENVIRONMENTAL CHARACTERISTICS.**

PERFORMANCE TEST	TEST METHOD	APPRAISE
Short Time Overload	2.5 times RCWV for 5 seconds	±(0.75%+0.05Ω)
Temperature Coefficient(T.C.R)	Resistance value at room (+25°C) Temperature and room Temperature(+125°C)	By Type
Dielectric Withstanding Voltage	In V-Block for 60 seconds	By Type
Pulse Overload	4 times RCWV for10000cycles(1sec.on , 25secs.off)	±(1%+0.05Ω)
Insulation Resistance	In V-Block	> 10000MΩ
Load Life	70°C at RCWV for1000hrs.(1.5hrs. on , 0.5hrs.off)	±(3%+0.05Ω)
Load Life In Humidity	40±2°C 90~95%RH at 0.1 times RCWV for1000hrs. (1.5hrs. on , 0.5hrs.off)	Less than 100KΩ±3% 100KΩ or more±5%
Solder Ability	260±5°C for 2±0.5 seconds	95% min. coverage
Resistance to Solvent	IPA for 5±0.5 Min. with ultrasonic	No deterioration of coatings and markings
Terminal Strength	Direct load for 10 sec. In the direction off the terminal leads.	Tensile: ≥2.5kg

Reference Standards: IEC 60115-1

Storage Temperature: 25±3°C; Humidity < 80%RH

● Resistor body color : Epoxy Coating

1. Normal size(1/8W~2W) Miniature size(1/4WS 0204 1/2WSS)-----Khaki

2. Miniature size(1/2WS~3WS)-----Pink

● PART NUMBER:

CFR	1/4W	3K	J	TB
↓	↓	↓	↓	↓
Type	Power rating	Resistance	J	Packaging
Carbon Film Fixed Resistors	1/8W 1/4W 1/2WS 1/2W	1R 1Ω 10R 10Ω 1K2 1K2Ω 1M 1MΩ	G ± 2% J ± 5%	TB Taping Box TR Taping Reel BU Bulk F F-TYPE