

## Carbon Film Resistor—CFS Series

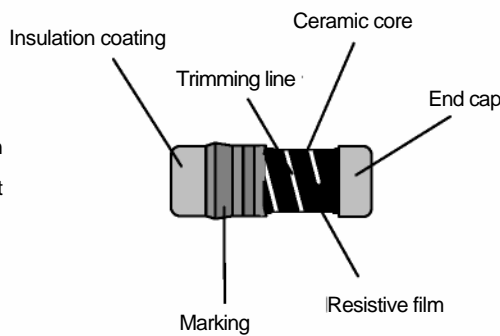
### Features



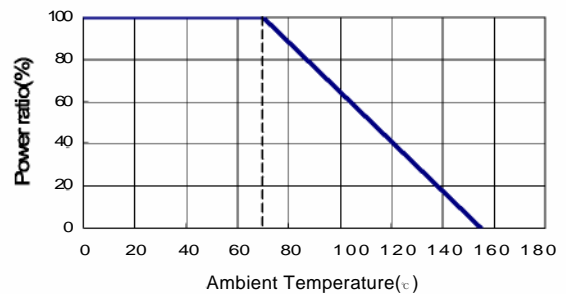
- SMD style carbon resistor.
- Free direction for mounting due to cylindrical design.
- High solder ability due to specially plated electrodes.
- Electrodes strength is higher than flat chip resistors.
- Lower current noise than thick film flat chip resistors.
- Suitable for reflow, flow and iron soldering.

### Applications

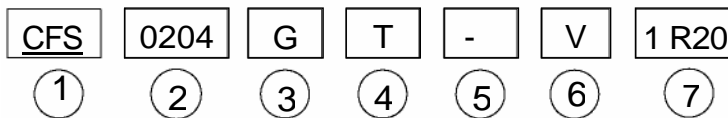
- Military
- Automotive
- Telecommunication
- Medical Equipment
- Consumer Product



### Derating Curve



### Part Numbering



#### Product

Product Type	Product Type
CFS	Carbon Film Resistor

#### Dimensions (L×W)

Codes	Dimensions (L×W)
0204	3.50×1.40mm
0207	5.90×2.20mm
0309	8.50×3.20mm

#### Resistance Tolerance

Codes	Resistance Tolerance
G	±2.00%
J	±5.00%

Codes	Type
T	Taping Reel
B	Bulk

#### TCR

Type	Type
-	No specified

#### Power Rating

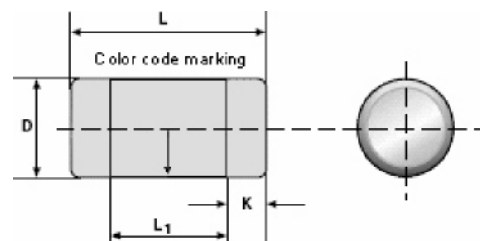
Codes	Type
S	2W
T	1W
U	1/2W
V	1/4W

#### Resistance

Codes	Type
0010	10
1R20	1.20
2201	22000
1002	100000
1003	1000000
1004	10000000

### Dimension

Codes	L	ΦD	K min	L1 min	Packaging (180mm/7")
0204	3.50±0.2	1.40±0.15	0.5	2.3	3000EA
0207	5.90±0.2	2.20±0.20	0.5	4.7	2000EA
0309	8.50±0.2	3.20±0.20	0.5	7.3	2500EA



## Standard Electrical Specifications

Item Type	Power Rating at 70°C	Operating Temp. Range	Max Operating Voltage	Max Overload Voltage	Resistance Tolerance (± %)	Resistance Range (E24)
0204	1/4W	-55 ~ +155 °C	250V	500V	2% , 5%	
0207	1/2W		300V	600V		
0207	1W		350V	700V		
0309	1W		350V	700V		
0309	2W		350V	700V		

\*Viking is capable of manufacturing the optional spec based on customer's requirement.

## Environmental Characteristics

Test Item	Specification	Test Method
Short Time Overload	$A_{R\pm 1\%}$	<b>JIS-C-5202-5.5</b> RCWV*2.5 or Max Overloading Voltage' 5 seconds
Load Life	$A_{R\pm 3\%}$	<b>JIS-C-5202-7.10</b> RCWV' 70 °C ' 1.5 hours ON ' 0.5 hours OFF, total 1000 hours
Humidity (Steady State)	$A_{R\pm 5\%}$	<b>JIS-C-5202-7.9</b> 40 °C ,90~95%RH,RCWV 1.5 hours ON, 0.5 hours OFF, total 1000 hours
Resistance to Dry Heat	$A_{R\pm 2\%}$	<b>JIS-C-5202-7.2</b> 96 hours @ +155 °C without load
Solderability	95%min coverage	<b>JIS-C-5202-6.5</b> 245 °C <sub>±5</sub> °C, 3±0.5 (sec)
Resistance to Soldering Heat	$A_{R\pm 1\%}$	<b>JIS-C-5202-6.4</b> 260±5 °C, 10±1 seconds

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