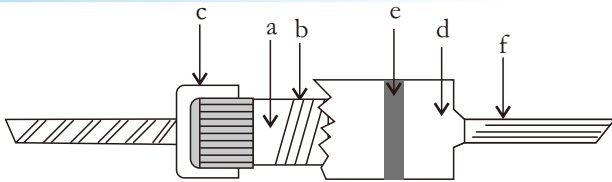


## ● Features

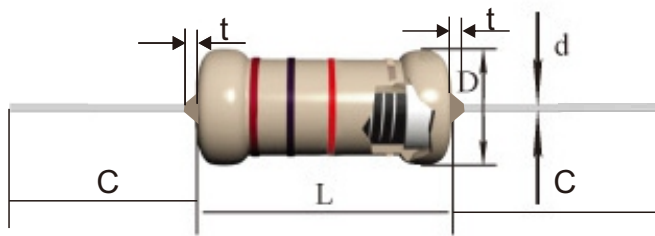
- (1) Stable performance, extensive resistance, small size, high operating temperature and high ultimate voltage.
- (2) High adaptive pulse load, good high frequency performance.
- (3) Operating ambient temperature:  $-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$
- (5) Resistance tolerance:  $\pm 2\%$ 、 $\pm 5\%$ 、 $\pm 10\%$ .

## ● Construction



a	High Al <sub>2</sub> O <sub>3</sub>
b	High Stability Electric Conduction Film
c	Iron Cap
d	Epoxy Resin Coating
e	Color Ring
f	Tinned copper lead wire

## ● Dimensions



Type	Power	Dimensions(mm)				
		$L \pm 1$	$D \pm 0.5$	$C \pm 3$	$d \pm 0.05$	t Max
CFR012	1/6W	3.5	1.7	28	0.43	1.5
CFR25S	1/4WS	3.5	1.7	28	0.43	1.5
CFR25	1/4W	6.0	2.3	28	0.45	2.0
CFR50S	1/2WS	6.0	2.3	28	0.45	2.0
CFR50	1/2W	9.0	3.2	28	0.50	2.0
CFR100S	1WS	9.0	3.2	28	0.52	2.5
CFR100	1W	11.0	4.5	33	0.60	2.5
CFR200S	2WS	11.0	4.5	33	0.60	2.5
CFR200	2W	16.0	5.0	33	0.70	2.5
CFR300S	3WS	16.0	5.0	33	0.70	2.5
CFR300	3W	18.0	6.0	33	0.70	2.5
CFR500	5W	24.0	8.0	33	0.70	2.5

## ● Ordering Information

Example:

CFR	01B	J	100K0
(1)	(2)	(3)	(4)
Series Name	Power Rating	Resistance Tolerance	Resistance

(1) Type: CFR SERIES

(2) Power Rating: 01B=1W, 02S=2WS, 02B=2W...

(3) Tolerance: F=  $\pm 1\%$ 、G=  $\pm 2\%$ 、J=  $\pm 5\%$

(4) Resistance Value: 0R100=0.1 $\Omega$ , 0R220=0.22 $\Omega$ , 10R00=10 $\Omega$ , 10K00=10K $\Omega$ , 1M000=1M $\Omega$

## Reference Standards

JISC 5201-1

## Applications And Ratings

Type	Power	Range Resistance (Ω)	Max. working voltage	Max. overload voltage	Max. Pulse voltage	Max. Insulation voltage
CFR012	1/6W	0R~22M	200V	400V	500V	300V
CFR25S	1/4WS	0R~22M	200V	400V	500V	300V
CFR25	1/4W	0R~22M	250V	500V	750V	500V
CFR50S	1/2WS	0R~22M	250V	500V	750V	500V
CFR50	1/2W	0R1~22M	350V	700V	1000V	700V
CFR100S	1WS	0R1~22M	350V	700V	1000V	700V
CFR100	1W	0R1~22M	500V	1000V	1000V	1000V
CFR200S	2WS	0R1~22M	500V	1000V	1000V	1000V
CFR200	2W	0R1~22M	500V	1000V	1000V	1000V
CFR300S	3WS	0R1~22M	500V	1000V	1000V	1000V
CFR300	3W	0R1~22M	700V	1200V	1200V	1000V
CFR500	5W	0R1~22M	700V	1200V	1200V	1000V

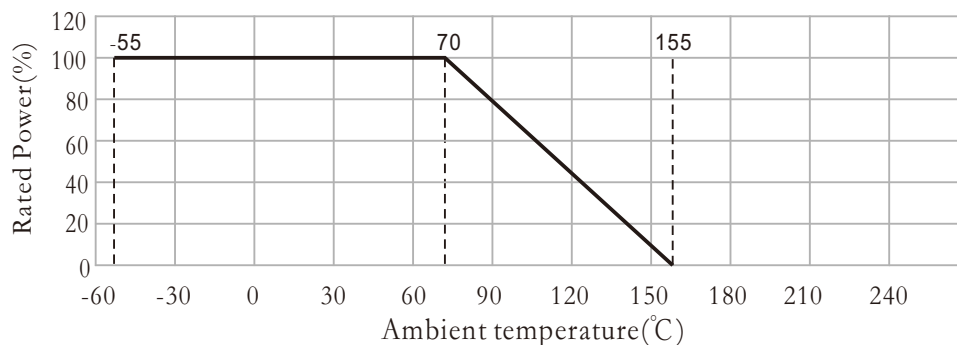
Note:

a. "S" means small size.

b. Rated voltage =  $\sqrt{\text{Power} \times \text{Resistance Value}}$

c. If the rated voltage calculated is higher than max.working voltage, follow the lower value.

## Derating Curve



## Performance

Test Items	Performance	Test Methods(JIS C 5201-1)
Temperature coefficient	$\pm 1000 \text{ppm}/^\circ\text{C}$	Test resistance value at normal temperature and normal temperature added $100^\circ\text{C}$ , calculate $70^\circ\text{C}$ resistance value change rate.
Short time overload	$\Delta R \leq \pm (1\%R_0 + 0.05\Omega)$	2.5X rated power or Max. overload voltage(get the lower) for 5seconds.
Pulse overload	$\Delta R \leq \pm (2\%R_0 + 0.05\Omega)$	At 4Xrated power or Max. pulse overload voltage(get the lower)cycle 10000 $\pm$ 200 times(1second on 25 seconds off)
Resistance to soldering heat	$\Delta R \leq \pm (1\%R_0 + 0.05\Omega)$	Immerge into the $350 \pm 10^\circ\text{C}$ tin stove for 2~3 seconds
Solderability	Tth soldering area is over 95%	Immerge into the $245 \pm 3^\circ\text{C}$ tin stove for 2~3 seconds
Temperature cycle	$\Delta R \leq \pm (1\%R_0 + 0.05\Omega)$	At $-55^\circ\text{C}$ for 30min, then at $+25^\circ\text{C}$ for 10~15min, then at $+125^\circ\text{C}$ for 30min, then at $+25^\circ\text{C}$ for 10~5, min, total 5cycles.
Load life in humidity	$\Delta R \leq \pm (5\%R_0 + 0.05\Omega)$	Overload rated voltage or Max.working voltage(get the lower)for 1000hours (1.5hours on and half-hour off) at the $40 \pm 2^\circ\text{C}$ and 90~95% relative humidity.
Load life in heat	$\Delta R \leq \pm (5\%R_0 + 0.05\Omega)$	Overload rated voltage or Max.working voltage(get the lower for)1000 hours(1.5hours on and half-hour off) at the $70 \pm 2^\circ\text{C}$ .