

CF SERIES

CARBON FILM FIXED RESISTOR

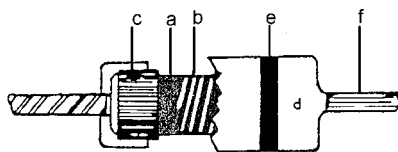


STANDARD TYPE CF(1/6W,1/4W,1/3W,1/2W,1W,2W,3W)

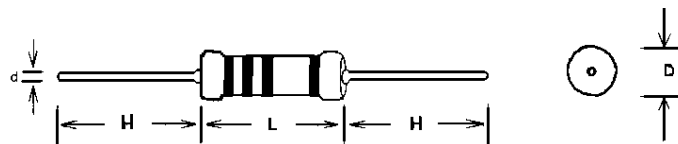
FEATURES:

- SPEC PER IEC 115-1, 115-4, MIL-R-10509, JIS 6402.
- STANDARD TOLERANCE: $\pm 2\%$ (G) & $\pm 5\%$ (J).

CONSTRUCTION



- A) CERAMIC CORE (HIGH CONDUCTIVITY)
- B) CARBON FILM (HIGH STABILITY)
- C) END CAP (TINNED IRON)
- D) EPOXY RESIN (INSULATIVE LACQUER, SOLVENT-PROOF)
- E) COLOR CODE PER IEC & EIA STANDARDS (4 RINGS)
- F) TINNED COPPER WIRE (RELIABLE SOLDERABILITY)



DIMENSIONS:

TYPE NO.	DIMENSIONS				
	WATT	L \pm mm	D \pm 0.5mm	d \pm 0.05mm	H \pm 3.0mm
CF16	1/6W	3.4 \pm 0.5	1.7	0.45	28
CF20	1/4W	3.4 \pm 0.5	1.7	0.45	28
CF25	1/3W	6.5 \pm 0.5	2.3	0.6	27
CF50	1/2W	9.0 \pm 1.0	3.2	0.6	27
CF51	1/2W	8.5 \pm 1.0	2.7	0.6	27
CF100	1W	11.0 \pm 1.0	4.3	0.8	35
CF200	2W	15.0 \pm 1.0	4.8	0.8	35
CF300	3W	24.0 \pm 1.0	7.8	0.8	38

SPECIAL SIZES, VALUES AND SPECIFICATIONS NOT LISTED AVAILABLE ON SPECIAL ORDER.

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CHARACTERISTICS:

ITEM	POWER RATED (70°C)	CF16	CF20	CF25	CF50	CF100	CF200	CF300
		1/6W	1/4W	1/3W	CF51 1/2W	1W	2W	3W
MAX WORKING VOLTAGE		200V	200V	250V	350V	500V	500V	500V
MAX OVERLOAD VOLTAGE		400V	400V	500V	700V	1000V	1000V	1000V
MAX INTERMITTENCE OVERLOAD VOLTAGE		500V	500V	750V	1000V	1500V	1500V	1500V
DIELECTRIC WITHSTANDING VOLTAGE		300V	300V	500V	700V	1000V	1000V	1000V
RESISTANCE TOLERANCE		± 2(G) ± 5(J)	± 2(G) ± 5(J)	± 2(G) ± 5(J)	± 2(G) ± 5(J)	± 2(G) ± 5(J)	± 2(G) ± 5(J)	± 2(G) ± 5(J)
RESISTANCE RANGE	MIN	1R	1R	1R	1R	1R	1R	1R
	MAX	4M7	4M7	10M	10M	4M7	4M7	4M7

NOTE: RATED CONTINUOUS WORKING VOLTAGE (RCWV) SHALL BE DETERMINED FROM
 $RCWV = \sqrt{\text{POWER RATING} \times \text{RESISTANCE VALUE}}$

PERFORMANCE SPECIFICATIONS :

CHARACTERISTIC	SPECIFICATIONS			TEST METHODS
DC RESISTANCE	J (±5%)			AT 25°C
T.C.R.	CF16/CF20	CF25/CF50/CF51	CF100/CF200/CF300	RESISTANCE VALUE AT ROOM TEMPERATURE AND ROOM TEMPERATURE+100°C
± 300PPM/°C	LESS THAN 33K	LESS THAN 33K	LESS THAN 56K	
- 500PPM/°C	36K-330K	36K-330K	68K-470K	
- 700PPM/°C	360K-470K	360K-470K	510K-1M	
- 1000PPM/°C	510K-910K	510K-1M	OVER THAN 1M	
- 1500PPM/°C	OVER THAN 910K	OVER THAN 1M		
SHORT TIME OVER LOAD	± (1% ± 0.05R)			2.5 TIME RCWV 5 SEC.
INSULATION RESISTANCE	1000M OR MORE			V-BLOCK
LOAD LIFE	± (5% ± 0.05R)			70°C , 1000 HRS.
LOAD LIFE IN HUMIDITY	± (5% ± 0.05R)			40°C , 90-95%RH, 1000 HRS.
TEMPERATURE CYCLING	± (1% ± 0.05R)			- 25°C / 105°C , 5 CYCLING.
RESISTANCE TO SOLDERING HEAT	± (1% ± 0.05R)			350 °C , 3.5 SEC. 260 °C , 10 SEC.
SOLDERABILITY	95% COVERAGE MINIMUM			235 °C , 2 SEC.