

CARBON FILM RESISTORS

INTRODUCTION:

The WCF Series Carbon Film Resistors are manufactured using mechanised high vacuum carbonising plants. This ensures a stable resistive film. The resistors are insulated with layers of light brown lacquer. The WCF series offer a wide range of power ratings (0.125 W, 0.25W, 0.4W, 0.5W, 1W, 2W & 3W) with a tolerance of $\pm 5\%$. and TCR ± 1000 ppm/ $^{\circ}\text{C}$

SPECIFICATIONS					
Type No.	WCF 12 / WCF 25 M	WCF 25 / WCF 33 / WCF 40/WCF 50 M	WCF 50 / WCF 100 M	WCF 100 / WCF 200 M	WCF 200 / WCF 300 M
Rated Power at 70°C	0.125 W / 0.25 W	0.25 W / 0.40 W / 0.50 W	0.50 W / 1 W	1 W / 2 W	2 W / 3 W
Resistance Range (E24 series)	0.1 E to 10 Meg	0.1 E to 10 Meg	0.1 E to 10 Meg	0.1 E to 10 Meg	0.1 E to 10 Meg
Tolerance	$\pm 5\%$	$\pm 5\%$	$\pm 5\%$	$\pm 5\%$	$\pm 5\%$
Maximum working Voltage at 70°C at normal air pressure	200 V	250 V	350 V	500 V	500 V
Maximum Over Load Voltage	400 V	500 V	700 V	1000 V	1000 V
Operating Temperature Range	-40°C to + 150°C	-40°C to + 150°C	-40°C to + 150°C	-40°C to + 150°C	-40°C to + 150°C
Dielectric Strength	400V No break down ΔR .max. $\pm 0.5\%$	500V No break down ΔR .max. $\pm 0.5\%$	700V No break down ΔR .max. $\pm 0.5\%$	1000V No break down ΔR .max. $\pm 0.5\%$	1000V No break down ΔR .max. $\pm 0.5\%$

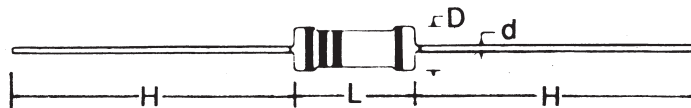
CHARACTERISTICS

Terminal Strength	no damage ΔR max. $\pm 0.5\%$
Resistance to soldering heat (350°C)	ΔR max. $\pm 1\%$
Solderability	good tinning no damage
Temperature Cycling -40°C to $\pm 150^{\circ}\text{C}$	ΔR max. $\pm 1\%$
Life 1000 hours at Rated Power	ΔR max. $\pm 3\%$
Short time overload	ΔR max. $\pm 1\%$
Resistance to solvents	no damage

STANDARD RESISTANCE VALUES E 24 Series

10	11	12	13	15	16	18	20	22	24	27	30
33	36	39	43	47	51	56	62	68	75	82	91

DIMENSIONS (in mm)



TYPE WCF 12 / WCF 25M	H = 26 ± 2	L = 3.3 ± 0.2	D = 1.7 ± 0.1	d = 0.45 ± 0.05
TYPE WCF 25 / WCF 33 / WCF 40 / WCF 50M	H = 26 ± 2	L = 6.0 ± 0.4	D = 2.2 ± 0.1	d = 0.50 ± 0.05
TYPE WCF 50 / WCF 100M	H = 26 ± 2	L = 9.0 ± 0.5	D = 3.2 ± 0.2	d = 0.55 ± 0.05
TYPE WCF 100 / WCF 200M	H = 26 ± 2	L = 11 ± 1.0	D = 4.3 ± 0.5	d = 0.65 ± 0.05
TYPE WCF 200 / WCF 300M	H = 26 ± 2	L = 15 ± 1.0	D = 5.0 ± 0.5	d = 0.75 ± 0.05

Colour	1st figure	2nd figure	multiplier	Tolerance
Black	0	0	1	
Brown	1	1	10	±1%
Red	2	2	100	±2%
Orange	3	3	1,000	
Yellow	4	4	10,000	
Green	5	5	100,000	±0.5%
Blue	6	6	1,000,000	±0.25%
Violet	7	7	10,000,000	±0.1%
Gray	8	8		
White	9	9		
Gold			0.1	±5%
Silver			0.01	±10%

POWER DERATING

For resistors operated at ambient temperatures above 70°C, power rating must be derated in accordance with the curve below.

