

METAL FILM RESISTORS

INTRODUCTION:

The WMF series Metal Film Resistors are manufactured using the latest Magnetron Vacuum Sputtering System. This ensures a very stable resistive medium having a very low temperature coefficient. The resistors are insulated with layers of lacquer. The WMF series offer a wide range of power rating (0.125W, 0.25W, 0.4W, 0.5W, 0.6W, 1W, 2W & 3W), tolerances (0.1%, 0.5%, 1%, 2%, 5%) and TCRs (15, 25, 50 & 100 ppm/°C)

SPECIFICATIONS					
Type No.	WMF12 / WMF25M	WMF 25 / WMF40 WMF 50M / WMF 60M	WMF 50 / WMF 100M	WMF 100 / WMF 200M	WMF 200 / WMF 300M
Rated Power at 70°C	0.125 W / 0.25 W	0.25 W / 0.40 W / 0.5 W / 0.6 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
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. ± 0.5%	500V No break down ΔR max. ± 0.5%	700V No break down ΔR max. ± 0.5%	1000V No break down ΔR max. ± 0.5%	1000V No break down ΔR max. ± 0.5%

TCR RANGE				
Tolerance Range	0.1% & 0.5%	1%	2%	5%
TCR (PPM/°C)	15 / 25	25 / 50 / 100	50/100	100

CHARACTERISTICS	
Terminal Strength	no damage ΔR max. ± 0.5%
Resistance to soldering heat (350°C)	ΔR max. ± 1%
Solderability	good tinnin no damage
Temperature Cycling -55°C to + 155°C	ΔR max. ± 0.25%
Life 1000 hours at Rated Power	ΔR max. ± 1%
Short time overload	ΔR max. ± 0.5%
Resistance to solvents	no damage

STANDARD RESISTANCE VALUES

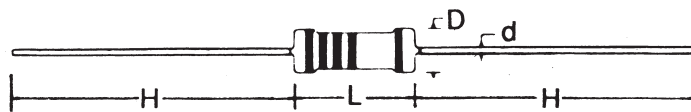
E 24 Series

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

E 96 Series

100	102	105	107	110	113	115	118	121	124	127	130	133	137	140	143
147	150	154	158	162	165	169	174	178	182	187	191	196	200	205	210
215	221	226	232	237	243	249	255	261	267	274	280	287	294	301	309
316	324	332	340	348	357	365	374	383	392	402	412	422	432	442	453
464	475	487	499	511	523	536	549	562	576	590	604	619	634	649	665
681	698	715	732	750	768	787	806	825	845	866	887	909	931	953	976

DIMENSIONS (in mm)



TYPE WMF 12 / WMF 25M	H = 26 ± 2	L = 3.3 ± 0.2	D = 1.7 ± 0.1	d = 0.45 ± 0.05
TYPE WMF 25 / WMF 40 / WMF 50M / WMF 60M	H = 26 ± 2	L = 6.0 ± 0.4	D = 2.2 ± 0.1	d = 0.50 ± 0.05
TYPE WMF 50 / WMF 100M	H = 26 ± 2	L = 9.0 ± 0.5	D = 3.2 ± 0.2	d = 0.60 ± 0.05
TYPE WMF 100 / WMF 200M	H = 26 ± 2	L = 11 ± 1.0	D = 4.3 ± 0.5	d = 0.65 ± 0.05
TYPE WMF 200 / WMF 300M	H = 26 ± 2	L = 15 ± 1.0	D = 5.0 ± 0.5	d = 0.75 ± 0.05

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

