THUNDER®

PRECISION METAL FILM RESISTORS

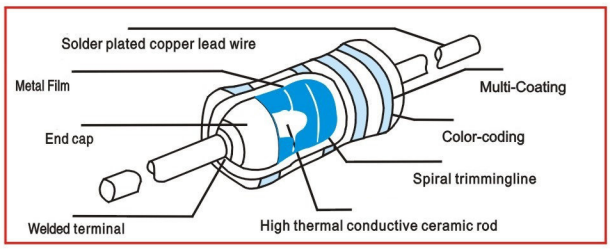
INTRODUCTION

MF, Metal film resistor,is a precise and functional resistor.it is suitable for applications on precise electronic circuits.

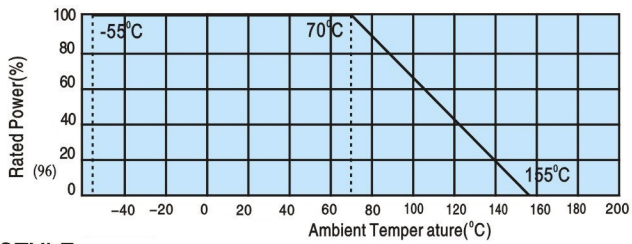
FEATURES

- High stability
- Low noise.Low temp.coefficient
- Precision characteristics

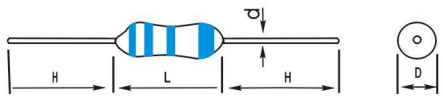
CONSTRUCTION



DERATING CURVE



STYLE



CHARACTERISTICS

Test Items	Specified Value
Temp.coefficient of resistance	±50,±100PPM/°C
Short time overload	±(0.5%+0.05Ω)
Dielectric withstanding voltage	No evidence of damage
Insulation resistance	Over 10^4MΩ
Terminal strength	No evidence of damage
Moisture load life	±(1.5%+0.05Ω)
Load life at 70°C	±(2%+0.05Ω)
Temper ature cycling	±(1%+0.05Ω)
Resistance to soldering heat	±(0.5%+0.05Ω)
Resistance to soldering heat	Over 95%
Resistance to solvent	No evidence of damage

DIMENSIONS

	TYPE	Dimensions (mm) L	D	d	H	Power Rating	Max Working Voltage	Max Overload Voltage	Dielectric Withstanding Voltage	Resistance Range
Normal size	MF1/6W	3.2±0.2	1.8±0.2	0.40±0.02	25±3	0.16W	200V	400V	300V	0.1Ω~22M
	MF1/4W	6.5±0.5	2.3±0.3	0.40±0.02	25±3	0.25W	250V	500V	500V	0.1Ω~22M
	MF1/2W	9.0±1.0	3.2±0.5	0.50±0.02	25±3	0.5W	350V	700V	500V	0.1Ω~22M
	MF1W	12.0±1.0	4.5±0.5	0.60±0.02	25±3	1W	400V	800V	500V	0.1Ω~22M
	MF2W	15.5±1.0	5.0±1.0	0.65±0.02	23±3	2W	500V	1000V	500V	0.1Ω~22M
	MF3W	17.5±1.0	6.0±1.0	0.70±0.02	27±3	3W	750V	1200V	600V	0.1Ω~22M
	MF5W	24.5±1.0	8.5±1.0	0.75±0.02	27±3	5W	900V	1400V	750V	0.1Ω~22M
Small size	MF1/4WS	3.2±0.2	1.8±0.2	0.40±0.02	25±3	0.25W	200V	400V	300V	0.1Ω~22M
	MF1/2WS	6.5±0.5	2.3±0.3	0.40±0.02	25±3	0.5W	250V	500V	500V	0.1Ω~22M
	MF1WS	9.0±1.0	3.2±0.5	0.50±0.02	25±3	1W	350V	700V	500V	0.1Ω~22M
	MF2WS	12.0±1.0	4.5±0.5	0.60±0.02	25±3	2W	400V	800V	700V	0.1Ω~22M
	MF3WS	15.5±1.0	5.0±1.0	0.65±0.02	23±3	3W	500V	1000V	700V	0.1Ω~22M
	MF5WS	17.0±1.0	6.0±1.0	0.70±0.02	27±3	5W	750V	1200V	700V	0.1Ω~22M
Super Mini-Size	MF1/2W(SS)	3.2±0.2	1.8±0.2	0.40±0.02	25±3	0.5W	250V	500V	500V	0.1Ω~1M
	MF1W(SS)	6.5±0.5	2.3±0.32	0.40±0.02	25±3	1W	350V	700V	500V	0.1Ω~1M
	MF2W(SS)	9.0±1.0	3.2±0.5	0.50±0.02	25±3	2W	400V	800V	500V	0.1Ω~1M
	MF3W(SS)	12.0±1.0	4.5±0.5	0.60±0.02	25±3	3W	500V	1000V	500V	0.1Ω~1M
	MF5W(SS)	15.5±1.0	5.0±1.0	0.65±0.02	27±3	5W	750V	1200V	600V	0.1Ω~1M
	MF0.4W	6.5±0.5	2.3±0.3	0.40±0.02	25±3	0.4W	250V	500V	500V	0.1Ω~1M
	MF0.6W	6.5±0.5	2.3±0.3	0.40±0.02	25±3	0.6W	250V	500V	500V	0.1Ω~1M

NOTE:Specification can be constructed on request.

THUNDER®

PRECISION METAL FILM RESISTOR

TOL：±0.02%、±0.05%、±0.1%、0.25%、±1%

TC：±5PPM、±10MMM、±15PPM、±25PPM、±50PPM

TYPE		MF1/8	MF1/4	MF 1/2	MF1W	MF2W		
MIL-R-10509F		RN50	RN55	RN60	RN65071	RN70		MIL-R-10509F
DIN-44061		0204	0207	0411	0617	0719		DIN-44061
POWER	70°C	0.125	0.250	0.500	0.75	1.00	70°C	(W)
RATING	100°C	0.067	0.110	0.173	0.350	0.610	100°C	
(W)	125°C	0.050	0.100	0.125	0.250	0.500	1250C	
MAX.WORKING VOLTAGE(V)		200	250	300	350	400		(V)

STANDARD RESISTANCE RANGE (Ω)

TYPE		MF1/8	MF1/4	MF1/2	MF1W	MF2W		
P(±0.02%)	from		5	5	10	10		(±0.02%)-P
	to		1M21	1M21	2M	2M		
W(±0.05%)	from	100	5	5	10	10		(±0.05%)-W
	to	100k	1M21	1M5	2M	2M		
B(±0.1%)	from	10	1	1	1	1		(±0.10%)-B
	to	500k	1M5	2M5	5M	10M		
C(±0.25%)	from	10	1	1	1	1		(±0.25%)-C
	to	600k	2M5	5M	10M	10M		
D(±0.50%)	from	10	1	1	1	1		(±0.50%)-D
	to	800k	5M	10M	10M	10M		
F(±1.00%)	from	10	1	1	1	1		(±1.00%)-F
	to	1M	10M	10M	10M	10M		
C7(±5ppm/°C)	from	10	10	10	10	10		(±5ppm/°C)-C7
	to	1M	1M	1M	1M	1M		
C6(±10ppm/°C)	from	100	10	10	10	10		(±10ppm/°C)-C6
	to	100k	1M5	1M5	1M5	1M5		
C5(±15ppm/°C)	from	100	5	5	5	5		(±15ppm/°C)-C5
	to	200k	1M5	1M5	1M5	1M5		
C3(±25ppm/°C)	from	10	5	5	5	5		(±25ppm/°C)-C3
	to	600k	2M5	2M5	2M5	2M5		
C2(±50ppm/°C)	from	10	5	5	5	5		(±50ppm/°C)-C2
	to	1M	10M	10M	10M	10M		

MF — Type

1/4W — Power Rating

Nomal Size	Small Size
1/6W	1/4WS
1/4W	1/2WS
1/2W	1WS
1W	2WS
2W	3WS

T52 — Form/ Packaging

S.P	Bulk (Straight)
M	Bulk. M-Form series (Horizontal Forming)
U	Buld,U-Form series(Vertical Forming)
Txx	Boxed (26.52.63.73.83mm width taping)
T/R	Tape on reel packing
U/T	Radial Taping

J — Resistance Toler ance

J	±5%
K	±10%
M	±20%
F	±1%
D	±0.5%
C	±0.25%
B	±0.1%

10K — Nominal Resistance

3-Digit:E-24, 12 Series

e.g. OR12 = 0.12Ω

120R = 120Ω

1K2 = 1.2KΩ

12K = 12KΩ

12M = 12MΩ