

## Metal Film Resistors

### MF Series

1/8W , 1/6W , 1/4W , 1/2W , 1W , 2W  
MF-12 , MF-25 , MF-50 , MF-100 , MF-200

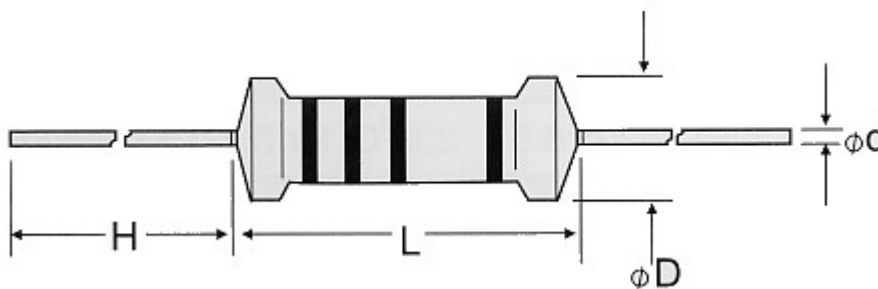
### INTRODUCTION

The MF series Metal Film Resistors are manufactured using vacuum sputtering system to deposit multiple layers of mixed metals and passivative materials onto a carefully treated high grade ceramic substrate, the resistors are coated with layers of light-blue lacquer.

### FEATURES

- MIL-R-1059F.
- MF-12, MF-25, MF-50, MF-100, MF-200 ( RN-50, RN-55, RN-60, RN-65, RN-70 )
- Resistance Tolerance : +0.05, +0.1, +0.25, +0.5, +1.
- T.C.R. : +-15ppm, +-25ppm, +-50ppm, +-100ppm.

### DIMENSIONS



STYLE	DIMENSION (mm)				POWER RATING (Watt)	VALUE RANGE
	L	φD	H	φd		
MF-12	3.3±0.4	1.8±0.3	28±2	0.5±0.05	1/6W ; 1/8W	10Ω~1M
MF-25	6.3±0.5	2.3±0.3	28±2	0.55±0.05	1/4W	10Ω~1M
MF-50	9±0.5	3.2±0.5	26±2	0.6±0.05	1/2W	10Ω~1M
MF-100	11.5±1.0	4.5±0.5	35±2	0.8±0.05	1W	10Ω~1M
MF-200	15.5±1.0	5.0±0.5	33±2	0.8±0.05	2W	10Ω~1M

## Metal Film MF Series

### ELECTRICAL CHARACTERISTICS

Style	MF-12	MF-25	MF-50	MF-100	MF-200	——
Power Rating 70°C	1/6;1/8W	1/4W	1/2W	1W	2W	——
Operating Temp. Range	-55°C~+155°C					
Max. Working Voltage	200V	250V	350V	500V	500V	——
Max. Overload Voltage	400V	500V	700V	1000V	1000V	——
Dielectric Withstanding Voltage(AC)	300V	500V	700V	1000V	1000V	——
Max. Intermittence Overload Voltage	250V	300V	500V	1000V	1000V	——
Value Range±0.25%, ±0.5%, ±1%	10 Ω ~ 1MΩ					
Value Range±0.05%, ±0.1%	100 Ω ~ 100KΩ					
Temp. Coefficient (by Type)	±15ppm, ±25ppm, ±50ppm, ±100ppm					

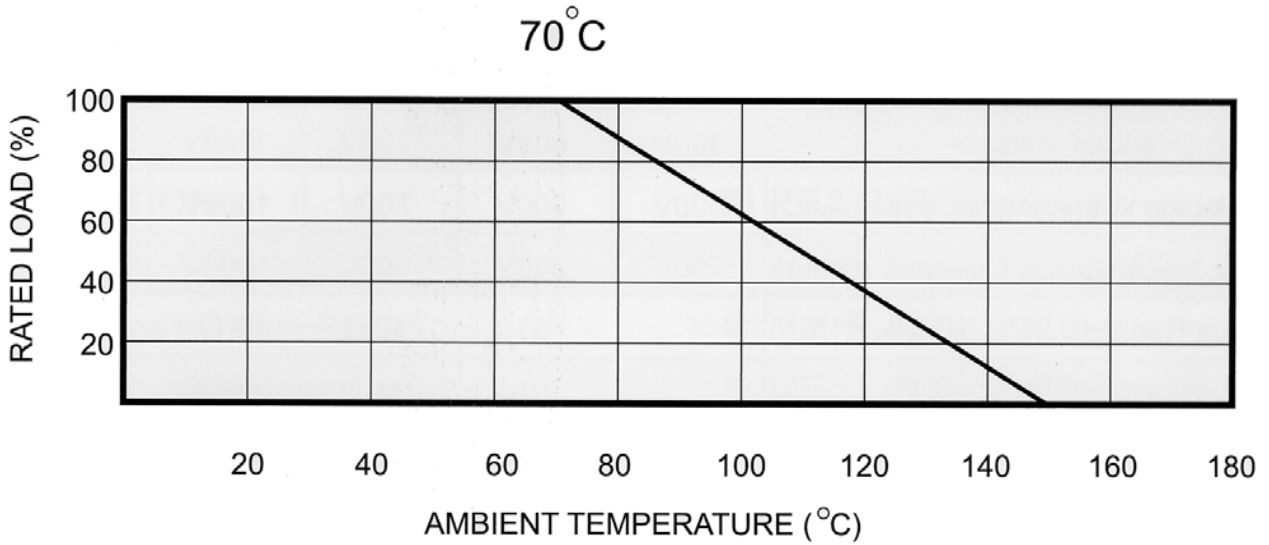
### ENVIRONMENTAL CHARACTERISTICS

PERFORMANCE TEST	TEST METHOD	APPRAISE
Short Time Overload	JIS-C-5202 5.5 : 2.5 times RCWV for 5 seconds	±(0.25%+0.05Ω)
Dielectric Withstanding V.	JIS-C-5202 5.7 : in V-Block for 60 seconds	By Type
Temperature Coefficient	JIS-C-5202 5.2 : -55°C ~ + 155°C	By Type
Insulation Resistance	JIS-C-5202 5.6 : in V-Block	≥1000 MΩ
Solderability	JIS-C-5202 6.5 : 235°C for 5 ± 0.5 seconds	95% min. Coverage
Resistance to solvent	JIS-C-5202 6.9 : Trichroethance for 1 min. With ultrasonic	No deterioration
Terminal Strength	Direct load for 10 sec. In the direction of the terminal leads	≥2.5Kg/24.5N
Pulse Overload	JIS-C-5202 5.8 : 4 time RCWV 10000 cycles (1 sec.on,25 sec.off)	±(0.5%+0.05Ω)
Load Life in Humidity	JIS-C-5202 7.9 : 40±2°C, 90~95% RH at RCWV for 1000 hrs (1.5 hrs. On, 0.5 hrs. Off)	±(0.5%+0.05Ω)
Load Life	JIS-C-5202 7.10 : 70°C at RCWV for 1000 hrs (1.5 hrs. On, 0.5 hrs. off)	±(0.5%+0.05Ω)
Temperature Cycling	JIS-C-5202 7.4 : 65°C ~ room temp ~ 150°C ~ room temp. For 5 cycle	±(0.25%+0.05Ω)
Soldering Heat	JIS-C-5202 6.4 : 35±10°C for 3 ± 0.5 seconds	±(0.25%+0.05Ω)

—★ Rated continuous Working Voltage (RCWV)=  $\sqrt{\text{power rating} \times \text{resistance value}}$

### MF Series

**FIG.1 Derating Curve**



**FIG.2 Hot-Spot Temperature**

