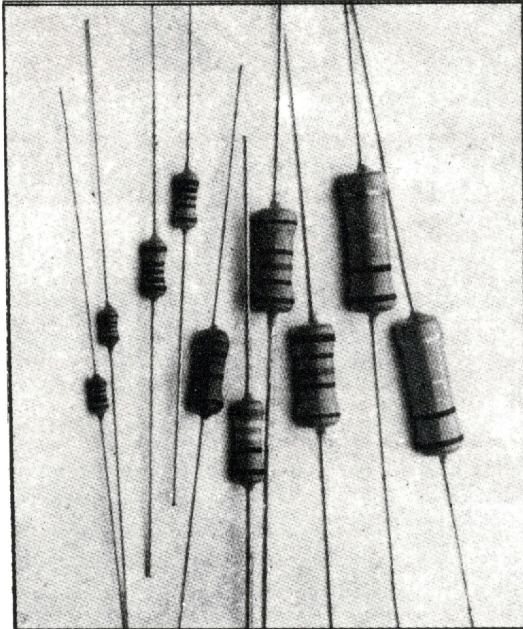




METAL FILM FIXED RESISTORS

TYPE

MF08, MF25

MF50, MF100, MF200

ELECTRICAL SPECIFICATIONS

All measurements are taken at +25°C at 1 KHz and 65% relative humidity, unless otherwise stated.

INTRODUCTION

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

The MF series encompasses an unusually broad selection of power ratings (1/8W, 1/4W, 1/2W, 1W, 2W, at 70°C), tolerance ($\pm 0.1\%$, 0.25% , 0.5% , 1%) and temperature coefficient ($\pm 15\text{PPM}/^\circ\text{C}$, $25\text{PPM}/^\circ\text{C}$, $50\text{PPM}/^\circ\text{C}$, $100\text{PPM}/^\circ\text{C}$), in all their combinations with full MIL-R-10509 performance.

FEATURES

DIN STYLE:

DIN-44061

0204, 0207, 0309, 0411, 0617

MIL STYLE:

MIL-R-10509F (Char. D & C)

RN-50, RN-55, RN-60, RN-65, RN-70

POWER RATING:

1/8W, 1/4W, 1/2W, 1W, 2W (at 70°C)

1/20W, 1/10W, 1/8W, 1/4W, 1/2W (at 125°C)

RESISTANCE TOLERANCE:

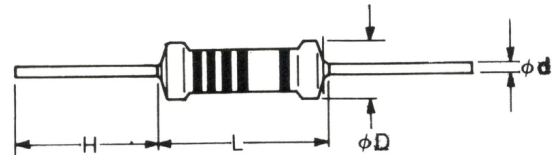
$\pm 0.1\%$, $\pm 0.25\%$, $\pm 0.5\%$, $\pm 1\%$

TEMP. COEFFICIENT:

$\pm 15\text{PPM}/^\circ\text{C}$, $\pm 25\text{PPM}/^\circ\text{C}$, $\pm 50\text{PPM}/^\circ\text{C}$,

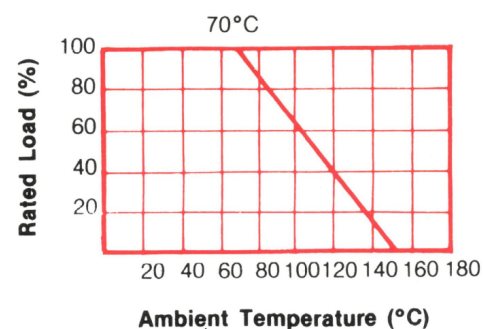
$\pm 100\text{PPM}/^\circ\text{C}$

DIMENSIONS



POWER DERATING CURVE

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





GENERAL SPECIFICATIONS

STYLE	MIL STYLE	POWER RATING (W)		MAX WORKING VOLTAGE		MAX OVERLOAD VOLTAGE		DIMENSION (mm)			
		70°C	125°C	70°C	125°C	70°C	125°C	L	D	H	d
MF 08	RN 50	0.125W	0.05W	200	150	400	300	3.8±0.2	1.5±0.2	28±2.0	0.45
MF 25	RN 55	0.25W	0.1W	250	200	500	400	6.5±0.5	2.3±0.3	28±2.0	0.60
MF 50	RN 60	0.5W	0.125W	350	250	700	500	9.5±0.5	3.2±0.5	28±2.0	0.60
MF 100	RN 65	1W	0.25W	500	300	1000	600	12±1.0	4.5±0.5	37±3.0	0.80
MF 200	RN 70	2W	0.5W	500	350	1000	700	16±1.0	5.5±0.5	37±3.0	0.80

RESISTANCE RANGE

STYLE	MIL STYLE	TOLERANCE	TC + 15PPM 25PPM	TC + 50PPM	TC + 100PPM	REMARK
MF 08	RN 50	±1% ±0.5% ±0.25%	100Ω—100KΩ 100Ω—100KΩ 100Ω—100KΩ	51.1Ω—200KΩ 51.1Ω—200KΩ 51.1Ω—200KΩ	51.1Ω—511KΩ 51.1Ω—511KΩ 51.1Ω—511KΩ	*Standard resistance is 10Ω—1MΩ, below or over this resistance on request.
MF 25	RN 55	±1% ±0.5% ±0.25% ±0.1%	51.1Ω—511KΩ 51.1Ω—511KΩ 100Ω—330KΩ 100Ω—100KΩ	10Ω—1MΩ 10Ω—1MΩ 51.1Ω—330KΩ 100Ω—100KΩ	5.11Ω—2.4MΩ* 5.11Ω—2.4MΩ*	
MF 50	RN 60	±1% ±0.5% ±0.25% ±0.1%	51.1Ω—1MΩ 51.1Ω—1MΩ 100Ω—511KΩ 100Ω—330KΩ	10Ω—2.2MΩ 10Ω—1MΩ 51.1Ω—511KΩ 100Ω—330KΩ	5.11Ω—2.4MΩ* 5.11Ω—2.4MΩ*	
MF 100	RN 65	±1% ±0.5% ±0.25% ±0.1%	51.1Ω—1MΩ 51.1Ω—1MΩ 100Ω—511KΩ 100Ω—330KΩ	5.11Ω—1.0MΩ 5.11Ω—1MΩ 51.1Ω—511KΩ 100Ω—330KΩ	5.11Ω—2.4MΩ* 5.11Ω—2.4MΩ*	
MF 200	RN 70	±1% ±0.5% ±0.25% ±0.1%	51.1Ω—1MΩ 51.1Ω—1MΩ 100Ω—511KΩ 100Ω—330KΩ	10Ω—2.2MΩ 10Ω—1MΩ 51.1Ω—511KΩ 100Ω—330KΩ	5.11Ω—5.11MΩ* 5.11Ω—5.11MΩ*	

PERFORMANCE SPECIFICATIONS COMPARISON

TEST	MF Series % Change in Resistance (ΔR)					Mil-R-22684 Style RL Requirement	Mil-R-10509 Chart C E Requirement
	MF 08	MF 25	MF 50	MF 100	MF 200		
1. Temperature Cycling, -65°C to +150°C (%)	±0.25	±0.25	±0.25	±0.25	±0.25	≤1.00	≤0.25
2. Low Temperature Operation, -65°C (%)	±0.25	±0.25	±0.25	±0.25	±0.25	≤0.50	≤0.25
3. Short Time Overload (%)	±0.25	±0.20	±0.20	±0.25	±0.20	≤0.50	≤0.25
4. Terminal Strength, 5lb. pull (%)	±0.20	±0.20	±0.20	±0.15	±0.15	≤0.50	≤0.20
5. Resistance to Soldering Heat, +350°C (%)	±0.10	±0.10	±0.10	±0.10	±0.10	≤0.50	≤0.10
6. Moisture Resistance, Mil Std 202 (%)	±0.50	±0.50	±0.50	±0.50	±0.50	≤1.50	≤0.50
7. Life 1000 hrs (Rated Power) (%)	±0.50	±0.50	±0.50	±0.50	±0.50	≤2.00	≤0.50
8. Shock, 50G, 11ms (%)	±0.25	±0.20	±0.20	±0.15	±0.15	≤0.50	≤0.25
9. Vibration-High Frequency, 10-2000Hz (%)	±0.25	±0.20	±0.20	±0.20	±0.20	≤0.50	≤0.25
10. Insulation Resistance	≥10 ¹⁰ Ω	≥10 ¹⁰ Ω	≥10 ¹⁰ Ω	≥10 ¹⁰ Ω	≥10 ¹⁰ Ω	≥10 ⁹ Ω	≥10 ⁹ Ω
11. Failure-Rate	<10 ⁻⁸ /h	<10 ⁻⁸ /h	<10 ⁻⁸ /h	<10 ⁻⁸ /h	<10 ⁻⁸ /h		