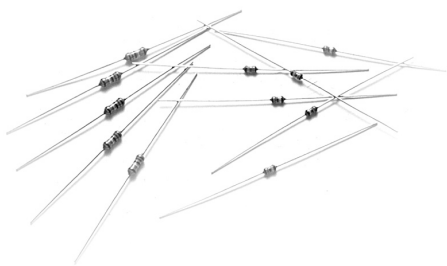


Metal Film Resistors

Professional Type

Miniature Style [MF0 Series]



INTRODUCTION

The MF0 Series Metal Film Professional Resistors are manufactured using a vacuum sputtering system to deposit multiple layers of mixed metal alloys and passivative materials onto a carefully treated high grade ceramic substrate. After a helical groove has been cut in the resistive layer; tinned connecting leads of electrolytic copper are welded to the end-caps. The resistors are coated with layers of blue color lacquer.

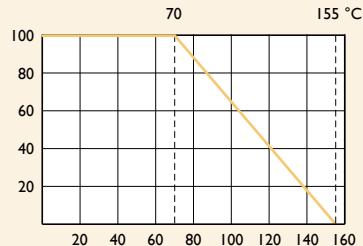
FEATURES

Power Rating	0.4W, 0.6W
Resistance Tolerance	$\pm 0.5\%$, $\pm 1\%$, $\pm 5\%$
T.C.R.	$\pm 50\text{ppm}/^{\circ}\text{C}$

DERATING CURVE

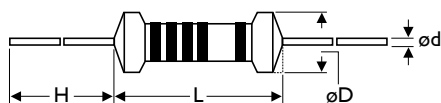
For resistors operated in ambient temperatures above 70°C , power rating must be derated in accordance with the curve below.

Rated Load (%)



Ambient Temperature ($^{\circ}\text{C}$)

DIMENSIONS



Unit: mm

STYLE	DIMENSION			
Miniature	L	øD	H	ød
MF0204	3.4 ± 0.3	1.9 ± 0.2	28 ± 2.0	0.45 ± 0.05
MF0207	6.3 ± 0.5	2.4 ± 0.2	28 ± 2.0	0.55 ± 0.05

Note:

ELECTRICAL CHARACTERISTICS

STYLE	MF0204	MF0207
Power Rating at 70°C	0.4W	0.6W
Maximum Working Voltage	250V	350V
Maximum Overload Voltage	500V	700V
Voltage Proof	300V	500V
Resistance Range	1 Ω - 10M Ω & 0 Ω for E24 & E96 series value	
Operating Temp. Range	-55°C to +155°C	
Temperature Coefficient	± 50 ppm/°C	

Note: Special value is available on request

ENVIRONMENTAL CHARACTERISTICS

PERFORMANCE TEST	TEST METHOD		APPRAISE
Short Time Overload	IEC 60115-1 4.13	2.5 times RCWV for 5 Sec.	$\pm 0.25\% + 0.05 \Omega$
Voltage Proof	IEC 60115-1 4.7	in V-block for 60 Sec., test voltage by type	By type
Temperature Coefficient	IEC 60115-1 4.8	-55°C to +155°C	By type
Insulation Resistance	IEC 60115-1 4.6	in V-block for 60 Sec.	$> 10,000M \Omega$
Solderability	IEC 60115-1 4.17	235 ± 5 °C for 3 ± 0.5 Sec.	95% Min. coverage
Solvent Resistance of Marking	IEC 60115-1 4.30	IPA for 5 ± 0.5 Min. with ultrasonic	No deterioration of coatings and markings
Robustness of Terminations	IEC 60115-1 4.16	Direct load for 10 Sec. in the direction of the terminal leads	≥ 2.5 kg (24.5N)
Periodic-pulse Overload	IEC 60115-1 4.39	4 times RCWV 10,000 cycles (1 Sec. on, 25 Sec. off)	$\pm 1.0\% + 0.05 \Omega$
Damp Heat Steady State	IEC 60115-1 4.24	40 ± 2 °C, 90-95% RH for 56 days, loaded with 0.1 times RCWV	$\pm 1.5\% + 0.05 \Omega$
Endurance at 70°C	IEC 60115-1 4.25	70 ± 2 °C at RCWV for 1,000 Hr. (1.5 Hr. on, 0.5 Hr. off)	$\pm 1.5\% + 0.05 \Omega$
Temperature Cycling	IEC 60115-1 4.19	-55°C $\Rightarrow$ Room Temp. $\Rightarrow$ +155°C $\Rightarrow$ Room Temp. (5 cycles)	$\pm 0.75\% + 0.05 \Omega$
Resistance to Soldering Heat	IEC 60115-1 4.18	260 ± 3 °C for 10 ± 1 Sec., immersed to a point 3 ± 0.5 mm from the body	$\pm 0.25\% + 0.05 \Omega$

Note: Rated Continuous Working Voltage (RCWV) = $\sqrt{\text{Power Rating} \times \text{Resistance Value}}$