

# Metal Film Resistors

# Precision Type

## Normal & Miniature Style [ MFP Series ]



### FEATURES

Power Rating : 1/6W, 1/4W, 0.4W, 1/2W, 0.6W

Resistance Tolerance :  $\pm 0.1\%$ ,  $\pm 0.25\%$

T.C.R. :  $\pm 15\text{ppm}/^\circ\text{C}$ ,  $\pm 25\text{ppm}/^\circ\text{C}$

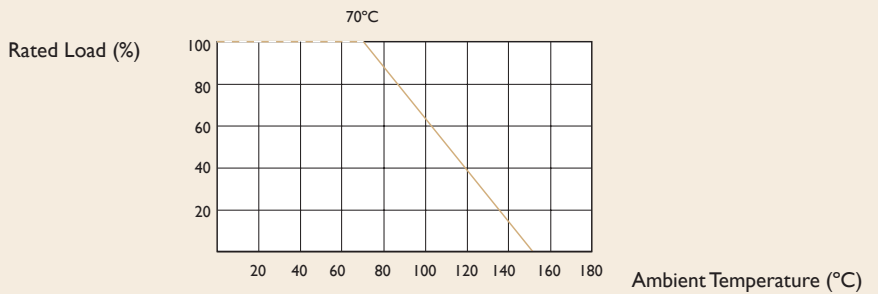
High thermal conductivity and specific gravity rods

Epoxy coating

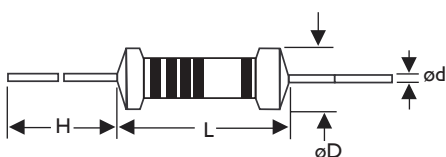
Blue body color

### POWER DERATING CURVE

For resistors operated in ambient temperatures above  $70^\circ\text{C}$ , power rating must be derated in accordance with the curve below.



### DIMENSIONS



Unit : mm

STYLE		DIMENSION			
Normal	Miniature	L	øD	H	ød
MFP-12	MFP25S	3.4 $\pm$ 0.3	1.9 $\pm$ 0.2	28 $\pm$ 2.0	0.5 $\pm$ 0.05
MFP204	—	3.4 $\pm$ 0.3	1.9 $\pm$ 0.2	28 $\pm$ 2.0	0.5 $\pm$ 0.05
MFP-25	MFP50S	6.3 $\pm$ 0.5	2.4 $\pm$ 0.2	28 $\pm$ 2.0	0.6 $\pm$ 0.05
MFP207	—	6.3 $\pm$ 0.5	2.4 $\pm$ 0.2	28 $\pm$ 2.0	0.6 $\pm$ 0.05



Note :

## ELECTRICAL CHARACTERISTICS

STYLE	TEST METHOD	MFP-12	MFP25S	MFP204	MFP-25	MFP50S	MFP207
Power Rating at 70°C		1/6W	1/4W	0.4W	1/4W	1/2W	0.6W
Maximum Working Voltage		150V	200V	200V	250V	250V	250V
Maximum Overload Voltage		300V	400V	400V	500V	600V	600V
Dielectric Withstanding Voltage	JIS-C-5202 5.7 in V-Block for 60 Seconds	300V	300V	300V	500V	500V	500V
Temperature Coefficient	JIS-C-5202 5.2 Room Temp.Add 100°C	±15ppm/°C, ±25ppm/°C					
Short Time Overload	JIS-C-5202 5.5 2.5 Times RCWV for 5 Sec.	±0.1%+0.05Ω					
Insulation Resistance	JIS-C-5202 5.6 in V-Block	>10,000MΩ					
Pulse Overload	JIS-C-5202 5.8 4 Times RCWV 10,000 Cycles (1 Sec. on , 25 Sec. off )	±1.0%+0.05Ω					
Operating Temp. Range		-55°C to + 155°C					
Value Rang ±0.1%		100Ω~100K			100Ω~200KΩ		
Value Range ±0.25%		50Ω~200K			50Ω~301KΩ		

\* Resistance range for standard resistance, below or over this resistance on request.

## ENVIRONMENTAL CHARACTERISTICS

PERFORMANCE TEST	TEST METHOD	APPRAISE
Terminal Strength	JIS-C-5202 6.1 Direct load for 10 Sec. in the Direction of the Terminal Leads	≥2.5kg (24.5N)
Resistance to Soldering Heat	JIS-C-5202 6.4 350°C ± 10°C for 3 ± 0.5 Seconds	±0.20%+0.05Ω
Solderability	JIS-C-5202 6.5 235°C ± 5°C for 5 ± 0.5 Seconds	95% Min. Coverage
Resistance to Solvent	JIS-C-5202 6.9 IPA for 1 Min. with Ultrasonic	No Deterioration of Coatings and Markings
Temperature Cycling	JIS-C-5202 7.4 -55°C→Room Temp.→+155°C→Room Temp. for 5 Cycles	±0.25%+0.05Ω
Humidity	JIS-C-5202 7.5 40±2°C, 90~95% RH for 1,000 Hrs.	±0.50%+0.05Ω
Load Life in Humidity	JIS-C-5202 7.9 40±2°C, 90~95% RH at RCWV for 1,000 Hrs. (1.5 Hrs. on , 0.5 Hrs. off )	±1.0%+0.05Ω
Load Life	JIS-C-5202 7.10 70°C at RCWV for 1,000 Hrs. (1.5 Hrs. on, 0.5 Hrs. off )	±1.0%+0.05Ω

\* Rated Continuous Working Voltage (RCWV)=√ Power Rating x Resistance Value