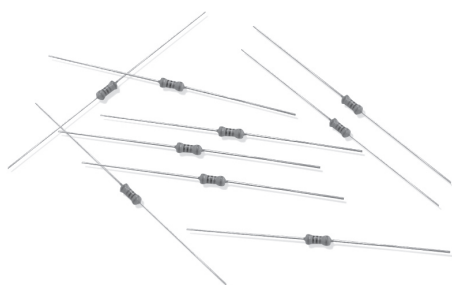


Metal Film Resistors

Precision Type

Normal & Miniature Style [MFP Series]



INTRODUCTION

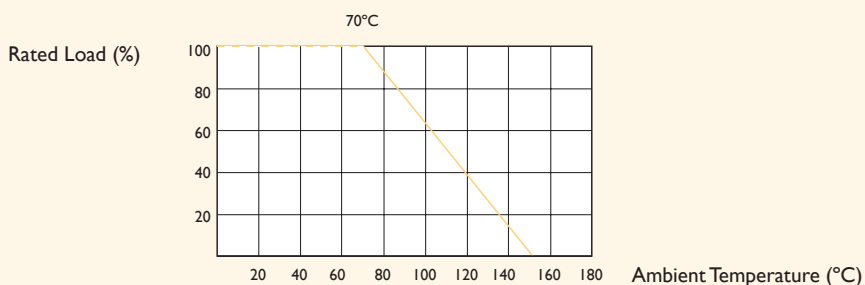
The MFP Series Metal Film Precision Resistors are manufactured using vacuum sputtering system to deposit multiple layers of mixed metals alloy and passivative materials onto a carefully treated high grade ceramic substrate. After a helical groove has been cut in the resistive layer, tinned connecting leads of electrolytic copper are welded to the end-caps. The resistors are coated with layers of blue color lacquer. Ultra high precision resistors, ultra high stability, ultra low temperature coefficient.

FEATURES

Power Rating	1/6W, 1/4W, 0.4W, 1/2W, 0.6W, 1W, 2W, 3W
Resistance Tolerance	±0.1%, ±0.25%
T.C.R.	±15ppm/°C, ±25ppm/°C

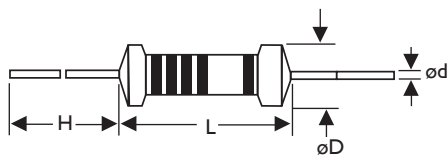
DERATING CURVE

For resistors operated in ambient temperatures above 70°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±0.3	1.9±0.2	28±2.0	0.45±0.05
MFP204	-	3.4±0.3	1.9±0.2	28±2.0	0.45±0.05
MFP-25	MFP50S	6.3±0.5	2.4±0.2	28±2.0	0.55±0.05
MFP207	-	6.3±0.5	2.4±0.2	28±2.0	0.55±0.05
MFP-50	MFP1WS	9.0±0.5	3.3±0.3	26±2.0	0.55±0.05
MFP100	MFP2WS	11.5±1.0	4.5±0.5	35±2.0	0.8±0.05
MFP200	MFP3WS	15.5±1.0	5.0±0.5	33±2.0	0.8±0.05



Note :

ELECTRICAL CHARACTERISTICS

STYLE	MFP-12	MFP25S	MFP204	MFP-25	MFP50S	MFP207	MFP-50	MFPIWS	MFP100	MFP2WS	MFP200	MFP3WS
Power Rating at 70 °C	1/6W	1/4W	0.4W	1/4W	1/2W	0.6W	1/2W	1W		2W		3W
Maximum Working Voltage	150V	200V		250V			350V	400V	500V			
Maximum Overload Voltage	300V	400V		500V	600V		700V	800V	1000V			
Dielectric Withstanding Vol.	300V			500V				700V	1000V			
Resistance Range	1 Ω ~ 10MΩ & 0Ω for E192 series value											
Operating Temp. Range	- 55°C to + 155°C											
Temperature Coefficient	±15ppm/°C , ±25ppm/°C											

* Below or over this resistance range on request.

ENVIRONMENTAL CHARACTERISTICS

PERFORMANCE TEST	TEST METHOD	APPRAISE	
Short Time Overload	JIS-C-5202 5.5	2.5 Times RCWW for 5 Seconds	±(0.1%+0.05 Ω)
Dielectric Withstanding Voltage	JIS-C-5202 5.7	in V-Block for 60 Seconds	by Type
Temperature Coefficient	JIS-C-5202 5.2	-55°C to +155°C	by Type
Insulation Resistance	JIS-C-5202 5.6	in V-Block	> 10000MΩ
Solderability	JIS-C-5202 6.5	260°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
Terminal Strength	JIS-C-5202 6.1	Direct load for 10 Sec. In the Direction of the Terminal Leads	≥2.5kg (24.5N)
Pulse Overload	JIS-C-5202 5.8	4 Times RCWW 10000 Cycles (1 Sec. On, 25 Sec. off)	±1.0%+0.05 Ω
Load Life in Humidity	JIS-C-5202 7.9	40±2°C , 90~95% RH at RCWW for 1,000 Hrs. (1.5 Hrs. on , 0.5 Hrs. off)	±1.0%+0.05 Ω
Load Life	JIS-C-5202 7.10	70°C at RCWW for 1,000 Hrs. (1.5 Hrs. on 0.5 Hrs. off)	±1.0%+0.05 Ω
Temperature Cycling	JIS-C-5202 7.4	-55°C→Room Temp.→+155°C→Room Temp. for 5 Cycles	±0.25%+0.05 Ω
Resistance to Soldering Heat	JIS-C-5202 6.4	350°C ±10°C for 3±0.5 Seconds	±0.25%+0.05 Ω

* Rated Continuous Working Voltage (RCWW)= $\sqrt{\text{Power Rating} \times \text{Resistance Value}}$