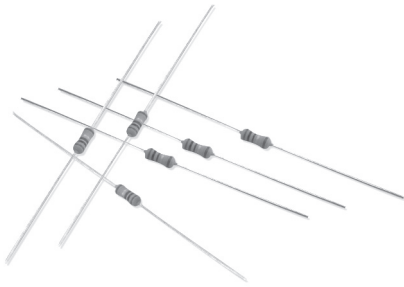


## Metal Film Resistors

# High Power & Flame-Proof Type

## Ultra Miniature Style [ FMP Series ]



### INTRODUCTION

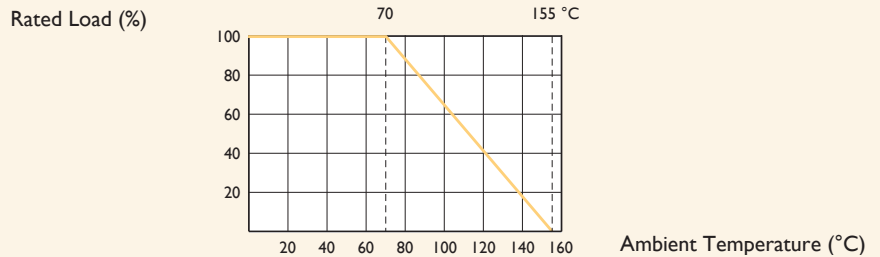
The FMP Series Metal Film High Power Resistors are manufactured using a vacuum sputtering system to deposit multiple layers of mixed metal alloys and passivative materials onto a carefully treated high grade ceramic substrate. After a helical groove has been cut in the resistive layer; tinned connecting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

### FEATURES

Power Rating	1/2W, 1W, 2W, 3W
Resistance Tolerance	±1%, ±5%
T.C.R.	±100ppm/°C
Flameproof Multi-layer Coating Meets	UL-94V-0
Flameproof Feature Meets Overload Test	UL-1412

### 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			
	L	øD	H	ød
Ultra Miniature				
FMP-50	3.4±0.3	1.9±0.2	28±2.0	0.45±0.05
FMP100	6.3±0.5	2.4±0.2	28±2.0	0.55±0.05
FMP200	9.0±0.5	3.9±0.3	26±2.0	0.55±0.05
FMP3WS	11.5±1.0	4.5±0.5	35±2.0	0.8±0.05
FMP300	15.5±1.0	5.0±0.5	33±2.0	0.8±0.05

Note:

## ELECTRICAL CHARACTERISTICS

STYLE	FMP-50	FMP100	FMP200	FMP3WS	FMP300
Power Rating at 70°C	1/2W	1W	2W	3W	
Maximum Working Voltage	200V	350V	500V		750V
Maximum Overload Voltage	400V	600V	700V		1,000V
Voltage Proof on Insulation	300V	500V			
Resistance Range	1Ω - 4M7Ω & for E24 & E96 series value				
Operating Temp. Range	-55°C to +155°C				
Temperature Coefficient	±100ppm/°C, ±50ppm/°C (FMP-50 & FMP100 types, R ≥ 10RΩ)				

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. (Not more than maximum Overload Voltage)	±1.0%+0.05Ω
Voltage Proof on Insulation	IEC 60115-1 4.7	In V-Block for 60 sec., test voltage as above table	No Breakdown
Temperature Coefficient	IEC 60115-1 4.8	Between -55°C to +155°C	By type
Insulation Resistance	IEC 60115-1 4.6	in V-block for 60 Sec.	>1,000MΩ
Solderability	IEC 60115-1 4.17	245±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	≥2.5kg (24.5N)
Periodic-pulse Overload	IEC 60115-1 4.39	4 times RCWV 10,000 cycles (1 Sec. on, 25 Sec. off)	±1.0%+0.05Ω
Damp Heat Steady State	IEC 60115-1 4.24	40±2°C, 90-95% RH for 56 days, loaded with 0.1 times RCWV	±2.0%+0.05Ω
Endurance at 70°C	IEC 60115-1 4.25	70±2°C at RCWV (or Umax., Whichever less) for 1,000 Hr. (1.5Hr.on, 0.5Hr. Off)	±2.0%+0.05Ω
Temperature Cycling	IEC 60115-1 4.19	-55°C ⇌ Room Temp. ⇌ +155°C ⇌ Room Temp. (5 cycles)	±1.0%+0.05Ω
Resistance to Soldering Heat	IEC 60115-1 4.18	260±3°C for 10±1 Sec., immersed to a point 3±0.5mm from the body	±0.25%+0.05Ω
Accidental Overload Test	IEC 60115-1 4.26	4 times RCWV for 1 Min.	No evidence of flaming or arcing

Note: RCWV(Rated Continuous Working Voltage) =  $\sqrt{\text{Power Rating} \times \text{Resistance Value}}$  or Max. working voltage listed above, whichever less.

Revision: 2020

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Metal Film Resistors - Through Hole](#) category:*

*Click to view products by [Yageo](#) manufacturer:*

Other Similar products are found below :

[FRN25J330R](#) [FRN50J1R0S](#) [H4100RBYA](#) [H415RBZA](#) [H41K1BYA](#) [H41K5BYA](#) [H41M0BDA](#) [H420R5BCA](#) [H421R5BZA](#) [H4221RBYA](#)  
[H424K3BDA](#) [H442K2BDA](#) [H45K62BZA](#) [H4634RBZA](#) [H473R2BZA](#) [H4931KBZA](#) [H8160KFDA](#) [H8274KBZA](#) [H82K0FDA](#) [H82K0FZA](#)  
[H87K5DYA](#) [RLR05C1501GPB14](#) [RLR05C6201GS](#) [RLR20C3240FRB14](#) [RLR20C51R0GMB14](#) [RLR32C7R50FMB14](#) [RNC55H4642FPB14](#)  
[HR01623J](#) [HR01682J](#) [270-1.69M-RC](#) [LR0204F110R](#) [LR0204F18R](#) [LR0204F20K](#) [LR0204F20R](#) [LR0204F510R](#) [LR1F121R](#) [LR1F133K](#)  
[LR1F383R](#) [LR1F3K01](#) [LR1F4K75](#) [LR2F330RJIT](#) [LR2F51R](#) [LR2F910R](#) [ERX-2SZJR20E](#) [SQMR74K7J](#) [FMF-25FTF52-100K](#)  
[FRN50J100RS](#) [FRN50J470RS](#) [H4100RBZA](#) [H414R3BZA](#)