Metal Film Resistors

FLAME-PROOF TYPE

Normal & Miniature Style [FMF Series]

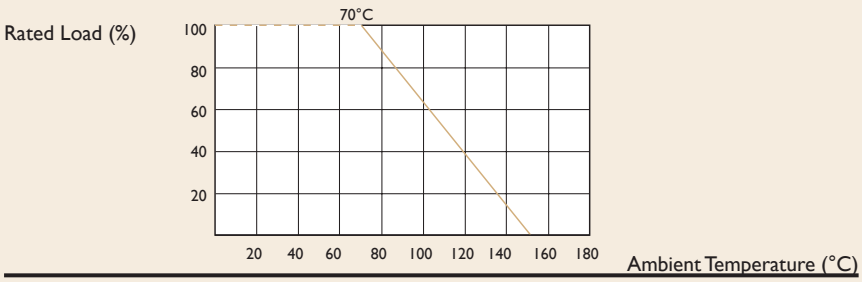
INTRODUCTION

The FMF series flame-proof type Metal Film Resistors are manufactured by vacuum deposit Metal Film on high thermal conductivity ceramic rods, and are coated with layers of gray color flame-proof lacquer.
These FMF flame-proof Metal Film Resistors is designed to replace the Metal Oxide Resistors and low power wire wound resistors, where when flame-proof and small size is needed.

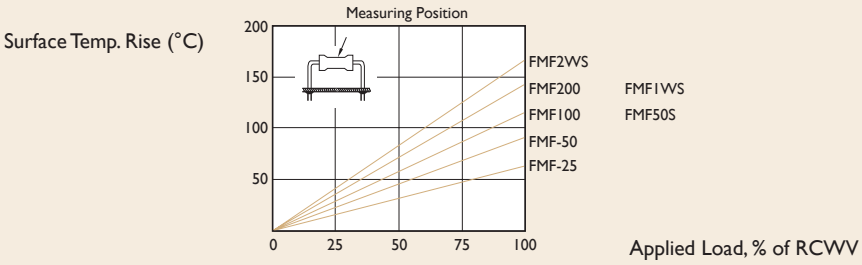
FEATURES

Power Rating	1/4W, 1/2W, 1W, 2W
FlameProof Silicone Coating	UL94V-0
Resistance Tolerance	±1%
T.C.R.	±50ppm/°C, ±100ppm/°C

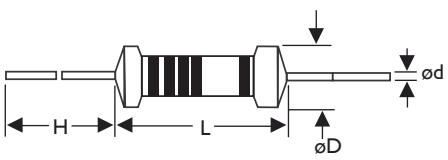
DERATING CURVE



HOT-SPOT TEMPERATURE



DIMENSIONS



Unit : mm

STYLE		DIMENSION			
Normal	**Miniature**	**L**	**øD**	**H**	**ød**
FMF-25	FMF50S	6.3±0.5	2.4±0.2	28±2.0	0.6±0.05
FMF-50	FMF1WS	9.0±0.5	3.3±0.3	26±2.0	0.6±0.05
FMF100	FMF2WS	11.5±1.0	4.5±0.5	35±2.0	0.8±0.05
FMF200	-	15.5±1.0	5.0±0.5	33±2.0	0.8±0.05

Note :

ELECTRICAL CHARACTERISTICS

STYLE	FMF-25	FMF50S	FMF-50	FMF1WS	FMF100	FMF2WS	FMF200
Power Rating at 70°C	1/4W	1/2W		1W		2W	
Operating Temp. Range	-55°C to +155°C						
Maximum Working Voltage	250V	300V	350V	400V	500V	500V	500V
Maximum Overload Voltage	500V	600V	700V	800V	1000V	1000V	1000V
Dielectric Withstanding Voltage	400V	400V	500V	600V	750V	750V	750V
Value Range ±1%	10Ω~1MΩ						
Temperature Coefficient (by Type)	±50ppm/°C, ±100ppm/°C						

* Standard resistance is 10Ω~1MΩ, below or over this resistance on request.

ENVIRONMENTAL CHARACTERISTICS

PERFORMANCE TEST	TEST METHOD		APPRAISE
Short Time Overload	JIS-C-5202 5.5	2.5 Times RCWV for 5 Seconds	±(0.25%+0.05Ω)
Dielectric Withstanding Voltage	JIS-C-5202 5.7	in V-Block for 60 Seconds	by Type
Temperature Coefficient of Resistance	JIS-C-5202 5.2	-55°C to +155°C	by Type
Insulation Resistance	JIS-C-5202 5.6	in V-Block	>1000MΩ
Solderability	JIS-C-5202 6.5	235±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	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 RCWV 10000 Cycles (1 Sec. on , 25 Sec. off)	±(1%+0.05Ω)
Load Life in Humidity	JIS-C-5202 7.9	40±2°C, 90~95% RH at RCWV for 1000 Hrs. (1.5 Hrs. on , 0.5 Hrs. off)	±(1.5%+0.05Ω)
Load Life	JIS-C-5202 7.10	70°C at RCWV for 1000 Hrs. (1.5 Hrs. on , 0.5 Hrs. off)	±(1.5%+0.05Ω)
Temperature Cycling	JIS-C-5202 7.4	-55°C→Room Temp.→+155°C→Room Temp. for 5 Cycles	±(0.75%+0.05Ω)
Resistance to Soldering Heat	JIS-C-5202 6.4	350°C±10°C for 3±0.5 Seconds	±(0.25%+0.05Ω)

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