

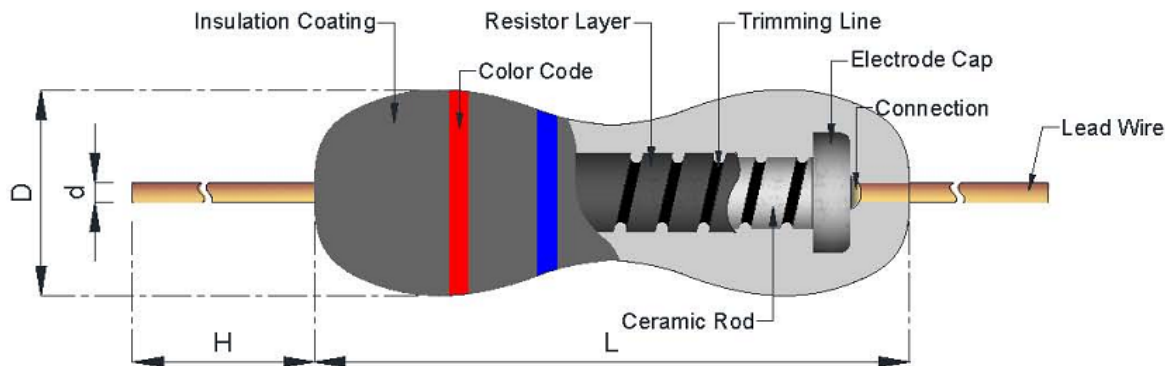
## FMF series Metal Film Flame Proof Fixed Resistors

### ◆ Features

- » Low Noise
- » Low T.C.R. 200ppm, 100ppm, 50ppm, 25ppm, 15ppm, 10ppm, 5ppm
- » High Precision 1%, 0.5%, 0.25%, 0.1%, 0.05%
- » Flame Proof: Silicone Coating

### ◆ Power Ratings Dimensions

- » Standard Type: 1/4W ~ 2W
- » Miniature Type: 1/2Ws ~ 4Ws



### ◆ Dimensions

Type		Dimensions (mm)			
Standard	Miniature	L	D	H	d
FMF (1/4W)	FMFS (1/2WS)	6.3 ± 0.5	2.3 ± 0.3	28 ± 2.0	0.55 ± 0.05
FMF50 (1/2W)	FMFS100 (1WS)	9.0 ± 0.5	3.2 ± 0.5	26 ± 2.0	0.55 ± 0.05
FMF100 (1W)	FMFS200 (2WS)	11.5 ± 1.0	4.5 ± 0.5	35 ± 2.0	0.8 ± 0.05
FMF200 (2W)	FMFS300 (3WS)	15.5 ± 1.0	5.0 ± 0.5	32 ± 2.0	0.8 ± 0.05
FMF300 (3W)	FMFS400 (4WS)	17.5 ± 1.0	6.0 ± 0.5	35 ± 2.0	0.8 ± 0.05



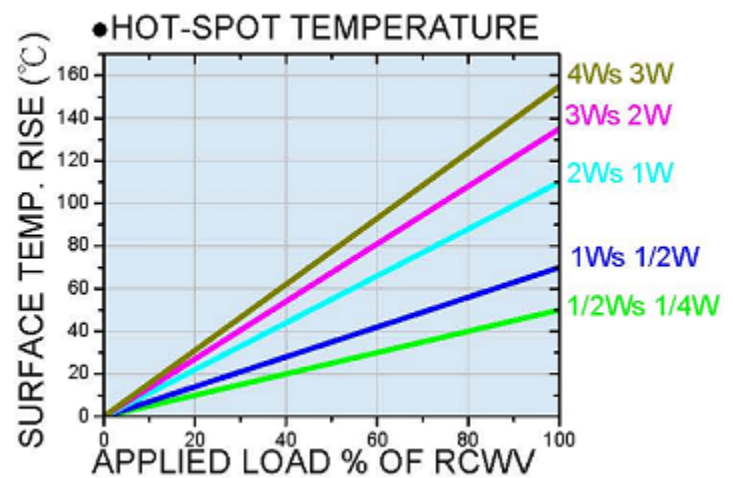
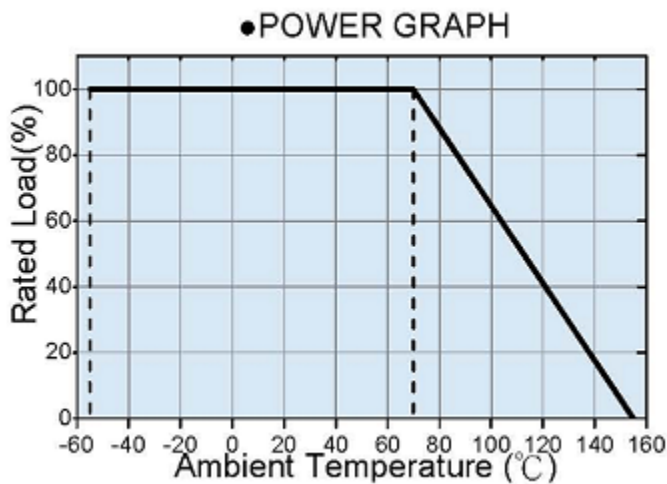
◆ Part Number

FMF	100	J	2K3	T	
Type	Watt	Tolerance	R value	Packing	TCR Value
FMF	1/4W = 25	J = ± 5%	2.3K = 2K3	T = Taping Box	Blank= ±100ppm
FMFS	1/2W = 50	F = ± 1%	10KΩ = 10K	B = Bulk	D = ±50ppm
	1W = 100	D = ± 0.5%		R = Taping Reel	C = ±25ppm
	2W = 200	C = ± 0.25%		M = M Type	N = ±15ppm
	3W = 300	B = ± 0.1%		MB = MB Lead Form	B = ±10ppm
	4W = 400	A = ± 0.05%		MK = MK Lead Form	S = ±5ppm
				F = F Lead Form	
				FC = FC Lead Form	
				FCK =	
				FCK Lead Form	
				FKK =	
				FKK Lead Form	
				PANA =	
				PANA Lead Form	
				(Only for 1/4W)	

## ◆ Electrical Characteristics

Power rating at 70°C		1/4W	1/2WS	1/2W	1WS	1W	2WS	2W	3WS	3W	4WS
Resistance Range(Ω)	0.5%/ 1%	0.1Ω ~ 1M									
	0.25%/ 0.1%	10Ω ~ 100K									
Operating Temp. Range		- 55°C ~ +155°C									
Max. Working Voltage		250V	300V	350V	400V	500V	500V	500V	500V	750V	750V
Max. Overload Voltage		500V	500V	500V	600V	700V	700V	1000V	1000V	1000V	1000V
Dielectric Withstanding volt.		350V	350V	400V	400V	500V	500V	500V	500V	500V	500V

Value Range for standard resistance, below or over this resistance on request



## ◆ Environmental Characteristics

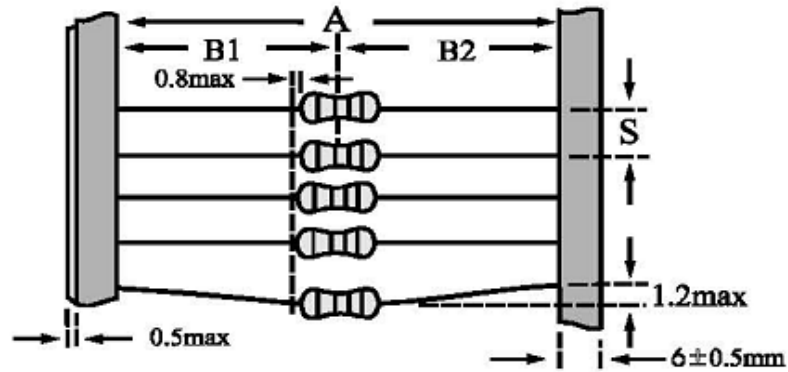
Performance Test	Test Method	Appraise
Short time overload	2.5 times RCWV for 5 seconds	±(0.25%+0.05Ω)
Temperature Coefficient (T.C.R)	Resistance value at room Temperature and room Temperature+100°C	By Type
Voltage Proof	In V-Block for 60 seconds	By Type
Pulse Overload	4 times RCWV for 10000cycles (1sec.on , 25secs.off)	±(0.75%+0.05Ω)
Insulation Resistance	In V-Block	> 10000MΩ
Load Life	70°C at RCWV for1000hrs. (1.5hrs. on , 0.5hrs.off)	±(1.5%+0.05Ω)
Load Life in Humidity	40±2°C 90~95%RH at RCWV for1000hrs. (1.5hrs. on , 0.5hrs.off)	±(1.5%+0.05Ω)
Solder Ability	260±5°C for 2±0.5 seconds	95% min. coverage
Resistance to Solvent	Trichloroethane for 1 min with ultrasonic	No deterioration of coatings and markings
Terminal Strength	Direct load for 10 sec. In the direction off the terminal leads.	Tensile: ≥2.5kg

Reference Standards: IEC 60115-1

Storage Temperature: 25±3°C; Humidity < 80%RH

Rated continuous Working Voltage (RCWV) =  $\sqrt{\text{POWER.RATING.} \cdot \text{RESISTANCE.VALUE}}$

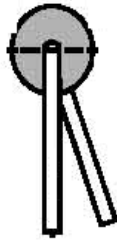
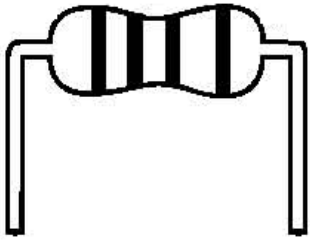
◆ **Packing Methods** Bandoleer for Axial leads



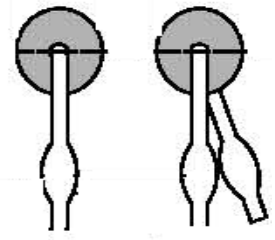
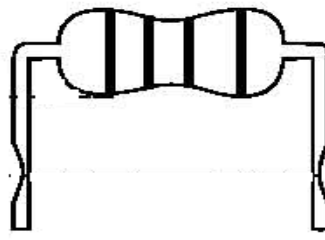
Type	Dimensions (mm)				
	A		B1-B2	S (spacing)	Max. deviation of spacing
1/8W 1/6W 1/4WS 0.4W (0204) 1/2WSS	52	+1	1.2	5	
		-0			
	26	+1	1		
		-0			
1/4W 1/2WS 0.6W(0207) 1WSS	52	+1	1.2	5	
		-0			
	26	+1	1		
		-0			
1/3W	52	+1	1.2	5	
		-0			
1/2W 1WS 2WSS	52	+1	1.2	5	
		-0			
1W 2WS 3WSS	52	+1	1.5	5	
		-0			
	73	+1			
		-0			
2W 3WS 4WSS	52	+1	1.5	10	
		-0			
	73	+1			
		-0			
3W  5WS	52	+1	1.5	10	
		-0			
	73	+1			
		-0			
5W 7WS	88	+1	1.5	10	
		-0			

◆ Lead Forming

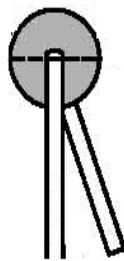
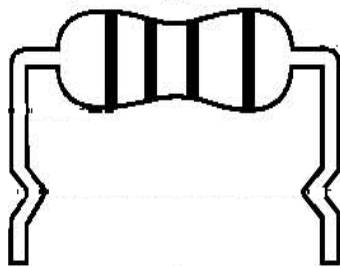
M Lead Form



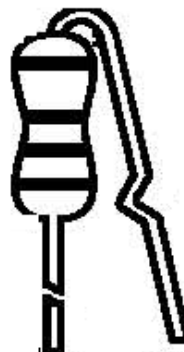
MB Lead Form



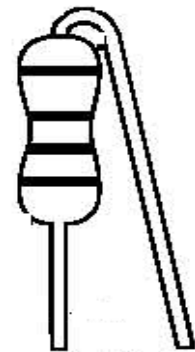
MK Lead Form



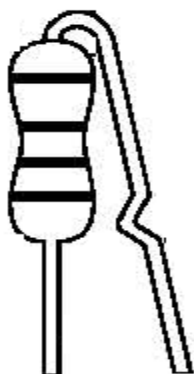
F Lead Form



FC Lead Form



FCK Lead Form



FKK Lead Form

