超小型金屬膜電阻器 FMR Series

ULTRA MINIATURE METAL FILM RESISTORS

◆ FEATURES

Figure

Resistance Tolerance: ±1%, ±2%, ±5%.
Excellent long-term stability.
High power-to-size ratio for significant space saving.
Variety of packing: bulk, strip pack, 26mm and 52mm tape and reel, cut and formen.

◆ INTRODUCTION

The FMR Series flame-proof type miniature Metal Film Resistors are manufactured by vacuum depos it metal film on high thermal conductivity and specific gravity Rosenthal ceramic or same grade Japaness rods. The both ends of ceramic are coated with precision mixed metals which help to prevent against noise, and to provide low TCR and low Tol precision resistors the can meet MIL and JIS requirement.
Utilizing a 95~98% of Al ceramic cores and combined a special cutting technology inside, this resulting superior resistors give excellent heat dissipation, stable performance and dignificantly up-grade the power rating.
This specially designed resistors are widely used by the industries of communication devices, meters, high-class, audio equipments and precision military defending facilities as well.

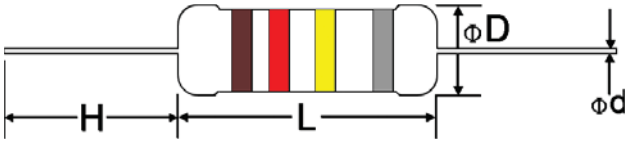
◆ ORDERING

Example: FMR20T25T52F1008

Type	Power	Package	Form	Tolerance	E96 Value Resistance
FMR-01	0.4W	T = T/Box	52mm	F = ±1%	1008 =1Ω
FMR-02	0.5W	B = Bulk	63mm	G = ±2%	1009 =10Ω
FMR-03	0.6W	R = Reel	73mm	J = ±5%	1000 =100Ω
FMR-10	1W				1001=1KΩ
FMR-20	1.8W				1002=10KΩ
FMR-30	3W				1003=10KΩ
					1004=100KΩ

◆ EXTERNAL DIMENSIONS

STYLE	DIMENSION (mm)			
	L	ΦD	H	Φd
FMR-01	3.3±0.4	1.8±0.3	28±2	0.5±0.05
FMR-02	6.3±0.5	2.3±0.3	28±2	0.6±0.05
FMR-03	6.3±0.5	2.3±0.3	28±2	0.6±0.05
FMR-10	6.3±0.5	2.±30.3	28±2	0.6±0.05
FMR-20	9.0±0.5	3.2±0.5	26±2	0.6±0.05
FMR-30	15.5±1.0	5.0±0.5	32±2	0.6±0.05



* The type designation shall be in the following form and as specified.

◆ RATED POWER

Type	Power	Maximum Voltage		Dielectric withstanding Volyage (AC)	Resistance Range	Operating temperature Range
		Working	Overload			
FMR-01	0.4W	200V	400V	300V	1R~10MΩ	-55℃~ +155℃
FMR-02	0.5W	250V	500V	500V	1R~10MΩ	
FMR-03	0.6W	250V	500V	500V	1R~10MΩ	
FMR-10	1W	250V	500V	500V	1R~10MΩ	
FMR-20	1.8W	350V	700V	700V	1R~10MΩ	
FMR-30	3W	500V	1KV	1KV	1R~10MΩ	
Temp. Coefficient (by Type)			±50ppm, ±100ppm			

* The listed resistance range for standard resistance, below or over this resistance is on request.
* Rated power is maximum power which can continuously loaded at specified ambient temerrmined 70℃, however when the ambient temperture exveeds 70℃, rated power should be determined from the derating vurve of Fig 1.

$$*\text{Rated continuous Working Voltage (RCWV)} = \sqrt{\text{power rating} \times \text{resistance value}}$$

RoHS Compliant
品質承諾標誌
QUALITY COMMITMENT

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◆ PERFORMANCE SPECIFICATIONS

PERFORMANCE TEST	TEST METHOD	APPRAISE
Short Time Overload	JIS-C-5202 5.5 : 2.5 times RCWV for 5 seconds	±(0.75%+0.05)Ω
Dielectric Withstanding V.	JIS-C-5202 5.7 : in V-Block for 60 seconds	By Type
Temperature Coefficient	JIS-C-5202 5.2 : -55°C ~+155°C	By Type
Insulation Resistance	JIS-C-5202 5.6 : in V-Block	≥1000 MΩ
Solderability	JIS-C-5202 6.5 : 230°C for 5±0.5 seconds	95% min. coverage
Resistance to Solvent	JIS-C-5202 6.9 : Trichroethance for 1 min. with ultrasonic	no deterioration
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 time RCWV 10000 cycles(1 sec.on, 25 sec.off)	±(2%+0.05)Ω
Load Life in Humidity	JIS-C-5202 7.9 : 40±2°C, 90~95% RH at RCWV for 1000 hrs (1.5hrs. on, 0.5 hrs. off)	±(3%+0.05)Ω
Load Life	JIS-C-5202 7.10 : 70°C at RCWV for 1000hrs (1.5hrs.on, 0.5hrs.off)	±(3%+0.05)Ω
Temperature Cycling		±(1%+0.05)Ω
Soldering Heat		±(1%+0.05)Ω

◆ POWER DERATING CURVE

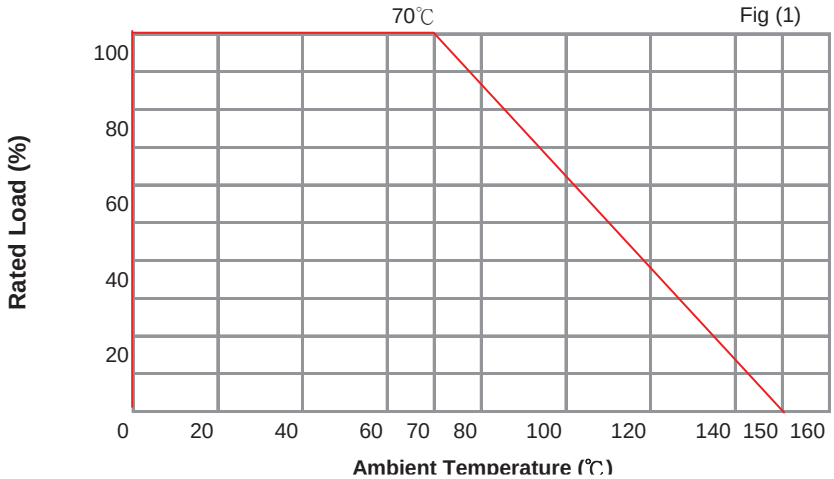
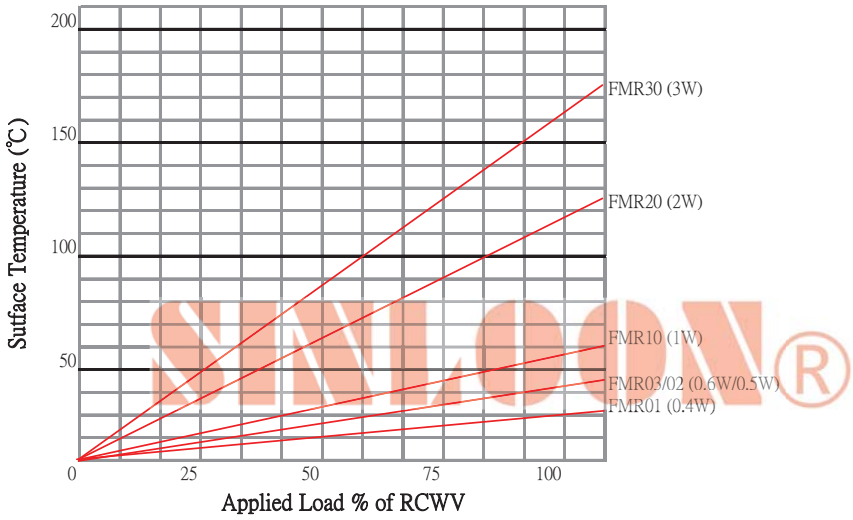


Fig 2. Ambient Temperature (℃)



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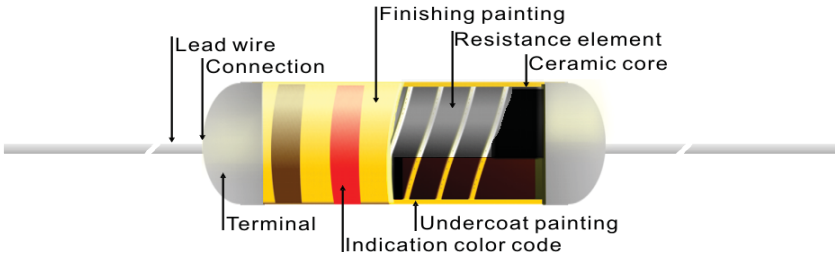
◆STRUCTURE DIAGRAM

The construction of resistor (CFR Series) shall be Figure.



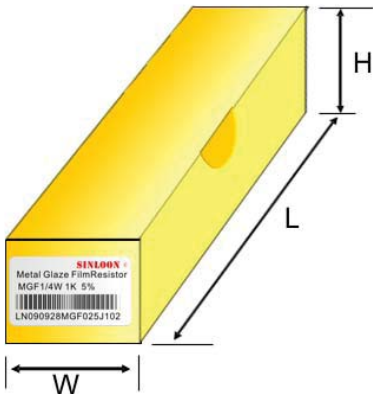
Item	Material
Ceramic Core	High alumina ceramic is used
Resistance element	The resistor element shall consist of metal glaze film.
Terminal	Tinned iron cap.
Connection	Rhe lead wire, Which is olated with solder, shall be mounted to the caps by welding process.
Lead Wire	Soldered or tinned annealed copper wire.
Undercoat Painting	Electric insulation varnish.
Finishing painting	Epoxy resin is used.
Indiction	Color code.

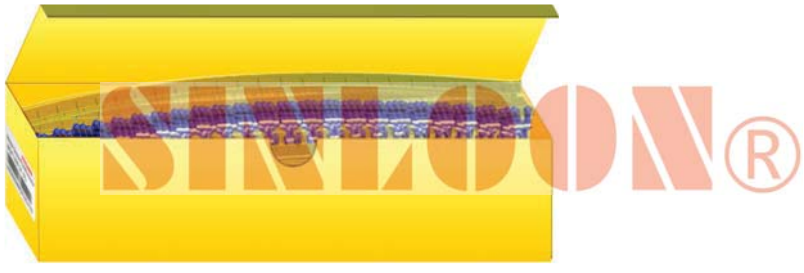
◆Painting Resistor body color

FMR series

◆PACKAGE:

Type	Power	Form	Dimensions (mm)		
			L	W	H
FMR01	0.4W	T52	246	78	55
FMR02	0.5W	T52	246	78	55
FMR03	0.6W	T52	246	78	55
FMR10	1W	T52	254	95	75
		T63	254	95	75
FMR20	2W	T52	254	95	75
		T63	254	95	75
		T73	254	95	75
FMR30	3W	T73	254	95	75
		T73	254	95	75





* 美隆電子產品規格特性參數的改變或更新,將不會另行通知。

* Mayloon characteristic parameters of electronic product specification changes or updates without prior notice。

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