

金屬皮膜電阻器

PRECISION METAL FILM RESISTORS

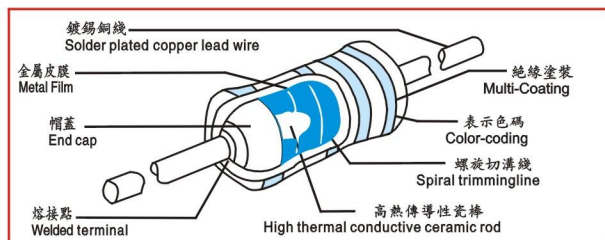
MF

製品介紹 INTRODUCTION

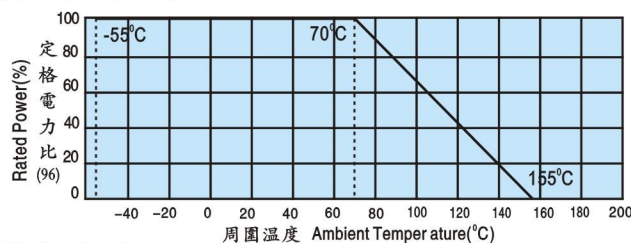
MF 金屬皮膜電阻器屬於高性能之精密電阻器，適用於精密電子回路。

MF, Metal film resistor, is a precise and functional resistor. it is suitable for applications on precise electronic circuits.

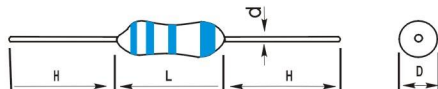
構造 CONSTRUCTION



負荷輕減曲線 DERATING CURVE



形狀 STYLE



尺寸 DIMENSIONS

形名		尺 寸 Dimensions (mm)				額定功率 Power Rating	最高工作電壓 Max Working Voltage	最高過負荷電壓 Max Overload Voltage	耐電壓 Dielectric Withstanding Voltage	電阻值範圍 Resistance Range
TYPE		L	D	d	H					
普通型 Normal size	MF1/6W	3.2±0.2	1.8±0.2	0.40±0.02	25±3	0.16W	200V	300V	300V	0.1Ω~22M
	MF1/4W	6.5±0.5	2.3±0.3	0.43±0.02	25±3	0.25W	250V	500V	500V	0.1Ω~22M
	MF1/2W	9.0±1.0	3.2±0.5	0.50±0.02	25±3	0.5W	350V	700V	500V	0.1Ω~22M
	MF1W	12.0±1.0	4.5±0.5	0.65±0.02	25±3	1W	500V	1000V	500V	0.1Ω~22M
	MF2W	15.5±1.0	5.0±1.0	0.72±0.02	27±3	2W	500V	1000V	500V	0.1Ω~22M
	MF3W	17.5±1.0	6.0±1.0	0.72±0.02	27±3	3W	500V	1000V	600V	0.1Ω~22M
	MF5W	24.5±1.0	8.5±1.0	0.75±0.02	27±3	5W	700V	1000V	750V	0.1Ω~22M
小型化 Small size	MF1/4WS	3.2±0.2	1.8±0.2	0.40±0.02	25±3	0.25W	200V	400V	300V	0.1Ω~22M
	MF1/2WS	6.5±0.5	2.3±0.3	0.43±0.02	25±3	0.5W	250V	500V	500V	0.1Ω~22M
	MF1WS	9.0±1.0	3.2±0.5	0.50±0.02	25±3	1W	350V	700V	500V	0.1Ω~22M
	MF2WS	12.0±1.0	4.5±0.5	0.65±0.02	25±3	2W	500V	1000V	700V	0.1Ω~22M
	MF3WS	15.5±1.0	5.0±1.0	0.72±0.02	25±3	3W	500V	1000V	700V	0.1Ω~22M
	MF5WS	17.0±1.0	6.0±1.0	0.72±0.02	27±3	5W	500V	1000V	700V	0.1Ω~22M
超小型化 Super Mini-Size	MF1/2W(SS)	3.2±0.2	1.8±0.2	0.40±0.02	25±3	0.5W	250V	500V	500V	0.1Ω~1M
	MF1W(SS)	6.5±0.5	2.3±0.32	0.43±0.02	25±3	1W	350V	700V	500V	0.1Ω~1M
	MF2W(SS)	9.0±1.0	3.2±0.5	0.50±0.02	25±3	2W	500V	1000V	500V	0.1Ω~1M
	MF3W(SS)	12.0±1.0	4.5±0.5	0.65±0.02	25±3	3W	500V	1000V	500V	0.1Ω~1M
	MF5W(SS)	15.5±1.0	5.0±1.0	0.72±0.02	27±3	5W	500V	1000V	600V	0.1Ω~1M

NOTE: Specification can be constructed on request.

特長 FEATURES

- 高安定性 High stability
- 低雜音・低溫度係數 Low noise. Low temp. coefficient
- 精密特性 Precision characteristics



特性 CHARACTERISTICS

試驗項目 Test Items	規格值 Specified Value
溫度係數 Temp. coefficient of resistance	±50, ±100 PPM/°C
短時間過負荷 Short time overload	±(0.5%+0.05Ω)
耐電壓 Dielectric withstanding voltage	無損壞的異狀 No evidence of damage
絕緣抵抗 Insulation resistance	Over 10 ¹⁰ MΩ
端子強度 Terminal strength	無損壞的異狀 No evidence of damage
耐久性(耐濕負荷) Moisture load life	±(1.5%+0.05Ω)
耐久性(定格負荷)70°C Load life at 70°C	±(2%+0.05Ω)
溫度循環 Temperature cycling	±(1%+0.05Ω)
焊錫耐熱性 Resistance to soldering heat	±(0.5%+0.05Ω)
焊錫附著性 Resistance to soldering heat	Over 95%
耐溶劑性 Resistance to solvent	無損壞的異狀 No evidence of damage

金屬皮膜電阻器

PRECISION METAL FILM RESISTOR

MF

TOL : $\pm 0.02\%$ 、 $\pm 0.05\%$ 、 $\pm 0.1\%$ 、 0.25% 、 $\pm 1\%$

TC : $\pm 5\text{PPM}$ 、 $\pm 10\text{MMM}$ 、 $\pm 15\text{PPM}$ 、 $\pm 25\text{PPM}$ 、 $\pm 50\text{PPM}$

TYPE		MF1/8	MF1/4	MF 1/2	MF1W	MF2W	型 號	
MIL-R-10509F		RN50	RN55	RN60	RN65071	RN70	美國標準 MIL-R-10509F	
DIN-44061		0204	0207	0411	0617	0719	西德工業標準 DIN-44061	
POWER	70°C	0.125	0.250	0.500	0.75	1.00	70°C	額定功率 (W)
RATING	100°C	0.067	0.110	0.173	0.350	0.610	100°C	
(W)	125°C	0.050	0.100	0.125	0.250	0.500	1250C	
MAX.WORKING VOLTAGE(V)		200	250	300	350	400		最大工作電壓 (V)

STANDARD RESISTANCE RANGE (Ω)

标准组值范围

TYPE		MF1/8	MF1/4	MF1/2	MF1W	MF2W	型 號	
P($\pm 0.02\%$)	from		5	5	10	10	由	$(\pm 0.02\%)\text{-P}$
	to		1M21	1M21	2M	2M	到	
W($\pm 0.05\%$)	from	100	5	5	10	10	由	$(\pm 0.05\%)\text{-W}$
	to	100k	1M21	1M5	2M	2M	到	
B($\pm 0.010\%$)	from	10	1	1	1	1	由	$(\pm 0.010\%)\text{-B}$
	to	500k	1M5	2M5	5M	10M	到	
C($\pm 0.25\%$)	from	10	1	1	1	1	由	$(\pm 0.25\%)\text{-C}$
	to	600k	2M5	5M	10M	10M	到	
D($\pm 0.50\%$)	from	10	1	1	1	1	由	$(\pm 0.50\%)\text{-D}$
	to	800k	5M	10M	10M	10M	到	
F($\pm 1.00\%$)	from	10	1	1	1	1	由	$(\pm 1.00\%)\text{-F}$
	to	1M	10M	10M	10M	10M	到	
C7($\pm 5\text{ppm}/^\circ\text{C}$)	from	10	10	10	10	10	由	$(\pm 5\text{ppm}/^\circ\text{C})\text{-C7}$
	to	1M	1M	1M	1M	1M	到	
C6($\pm 10\text{ppm}/^\circ\text{C}$)	from	100	10	10	10	10	由	$(\pm 10\text{ppm}/^\circ\text{C})\text{-C6}$
	to	100k	1M5	1M5	1M5	1M5	到	
C5($\pm 15\text{ppm}/^\circ\text{C}$)	from	100	5	5	5	5	由	$(\pm 15\text{ppm}/^\circ\text{C})\text{-C5}$
	to	200k	1M5	1M5	1M5	1M5	到	
C3($\pm 25\text{ppm}/^\circ\text{C}$)	from	10	5	5	5	5	由	$(\pm 25\text{ppm}/^\circ\text{C})\text{-C3}$
	to	600k	2M5	2M5	2M5	2M5	到	
C2($\pm 50\text{ppm}/^\circ\text{C}$)	from	10	5	5	5	5	由	$(\pm 50\text{ppm}/^\circ\text{C})\text{-C2}$
	to	1M	10M	10M	10M	10M	到	

訂貨方式 HOW TO ORDER

MF	1/4W	T52	J	10K																																																		
種類 Type	預定電力 Power Rating	形狀/ 包裝方式 Form/ Packaging	電阻值誤差率 Resistance Tol erance	公稱電阻值 Nominal Resistance																																																		
	<table><tr><td>Nomal Size</td><td>Small Size</td></tr><tr><td>1/6W</td><td>1/4WS</td></tr><tr><td>1/4W</td><td>1/2WS</td></tr><tr><td>1/2W</td><td>1WS</td></tr><tr><td>1W</td><td>2WS</td></tr><tr><td>2W</td><td>3WS</td></tr></table>	Nomal Size	Small Size	1/6W	1/4WS	1/4W	1/2WS	1/2W	1WS	1W	2WS	2W	3WS	<table><tr><td>S.P</td><td>Bulk (Straight)</td></tr><tr><td>M</td><td>Bulk, M-Form series (Horizontal Forming)</td></tr><tr><td>U</td><td>Buld, U–Form series(Vertical Forming)</td></tr><tr><td>Txx</td><td>Boxed (26.52.63.73.83mm width taping)</td></tr><tr><td>T/R</td><td>Tape on reel packing</td></tr><tr><td>U/T</td><td>Radial Taping</td></tr></table>	S.P	Bulk (Straight)	M	Bulk, M-Form series (Horizontal Forming)	U	Buld, U–Form series(Vertical Forming)	Txx	Boxed (26.52.63.73.83mm width taping)	T/R	Tape on reel packing	U/T	Radial Taping	<table><tr><td>J</td><td>± 5%</td></tr><tr><td>K</td><td>± 10%</td></tr><tr><td>M</td><td>± 20%</td></tr><tr><td>F</td><td>± 1%</td></tr><tr><td>D</td><td>± 0.5%</td></tr><tr><td>C</td><td>± 0.25%</td></tr><tr><td>B</td><td>± 0.1%</td></tr></table>	J	± 5%	K	± 10%	M	± 20%	F	± 1%	D	± 0.5%	C	± 0.25%	B	± 0.1%	<table><tr><td colspan="2">3–Digit: E–24, 12 Series</td></tr><tr><td>e.g.</td><td>OR12 = 0.12Ω</td></tr><tr><td></td><td>120R = 120Ω</td></tr><tr><td></td><td>1K2 = 1.2KΩ</td></tr><tr><td></td><td>12K = 12 KΩ</td></tr><tr><td></td><td>12M = 12MΩ</td></tr></table>	3–Digit: E–24, 12 Series		e.g.	OR12 = 0.12Ω		120R = 120Ω		1K2 = 1.2KΩ		12K = 12 KΩ		12M = 12MΩ
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