PRECISION METAL FILM FIXED RESISTORS

Features

- EIA standard color coding
- Non - Flame type available
- Low noise & voltage coefficient
- Low temperature coefficient range
- Wide precision range in small package
- Multiple epoxy coating on vacuum deposited metal film provides superior moisture protection
- Nichrome resistor element provides stable performance in various environment
- Too low or too high ohmic value can be supplied on a case to case basis

Ordering Procedure: (Ex.: MFR 1/2W, +/-5%, 200PPM, 10Ω, T/B-1000)

M	F	0	W	2	J	J	0	1	0	0	A	1	0

Resistor Type:
MF = Metal Film Fixed Resistors

Special Feature:
0 = Standard Product
F = Non-Flame
I = Non-Inductive

Wattage:
Normal size:
W8 = 1/8W
W4 = 1/4W
W2 = 1/2W
1W = 1W
2W = 2W
3W = 3W

Small size:
S4 = 1/4W-S
S2 = 1/2W-S
06 = 0.6W-S

Extra small size:
U2 = 1/2W-SS
04 = 0.4W-SS

Tolerance:
B = ±0.1%
C = ±0.25%
D = ±0.5%
F = ±1%
G = ±2%
J = ±5%

PPM requirement:
B = 15PPM
C = 25PPM
F = 50PPM
G = 100PPM
J = 200PPM

Resistance Value:
- E-24 series: the 1st digit is "0", the 2nd & 3rd digits are for the significant figures of the resistance and the 4th indicate the number of zeros:
  "J" ~ 0.1, "K" ~ 0.01
  Ex. 4.7Ω ~ 47J, 4.7KΩ ~ 472
- E-96 series: The 1st to 3rd digits are significant figures of resistance and the 4th one denotes number of zeros.
  Ex. 1.33 KΩ = 1331

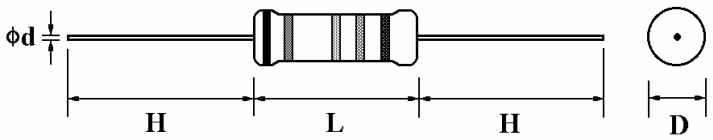
Packing Type:
A = Tape / Box
T = Tape / Reel
B = Bulk / Box
P = Tape / Box of PT-26 product

Packing Qty:
1 = 1,000 pcs, 2 = 2,000 pcs, 5 = 5,000 pcs,
A = 500 pcs, 0 = for Bulk / Box packing

Additional Information:
P = Panasert type
1 = Avisert type 1
2 = Avisert type 2
3 = Avisert type 3
0 = PT-52 mm, NIL for PT-26
8 = PT-58 mm
9 = PT-64 mm

** More explanation on part no, please see details on pages 79-80.*

Dimension (mm)



Remark: 0.1%, 0.25%, 0.5% & 1% : 5 Color Band
2% & 5% E24 Series : 4 Color Band

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Normal Size

Part No.	Style	Power Rating at 70°C	Dimension (mm)			
			D Max.	L Max.	d ± 0.05	H ± 3
MF0W8	MF-12	1/8W (0.125W)	1.85	3.5	0.45	28
MF0W4	MF-25	1/4W (0.25W)	2.5	6.8	0.54 (2)	28
MF0W2	MF-50	1/2W (0.5W)	3.5	10.0	0.54	28
MF01W	MF-100	1W	5.0	12.0	0.70	28
MF02W	MF-200	2W	5.5	16.0	0.70	28
MF03W	MF-300	3W	6.5	17.5	0.75	28

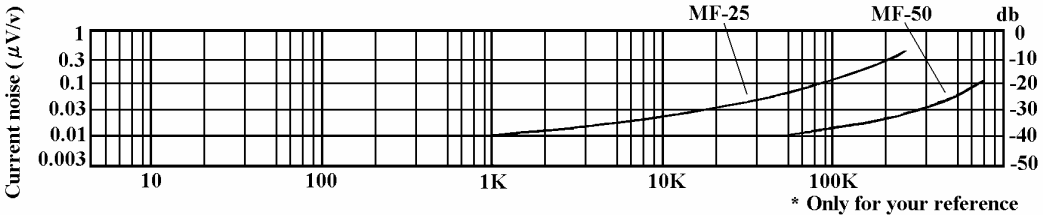
Small Size

Part No.	Style	Power Rating at 70°C	Dimension (mm)			
			D Max.	L Max.	d ± 0.05	H ± 3
MF0S4	MF-25-S	1/4W (0.25W)	1.85	3.5	0.45	28
MFF04	MF-40-SS	0.4W	1.9	3.7	0.45	28
MFFU2	MF-50-SS	1/2W (0.5W)	2.5	6.8	0.54 (2)	28
MF0S2	MF-50-S	1/2W (0.5W)	3.0	9.0	0.54	28
MF006	MF-60-S	0.6W	2.5	6.8	0.54 (2)	28

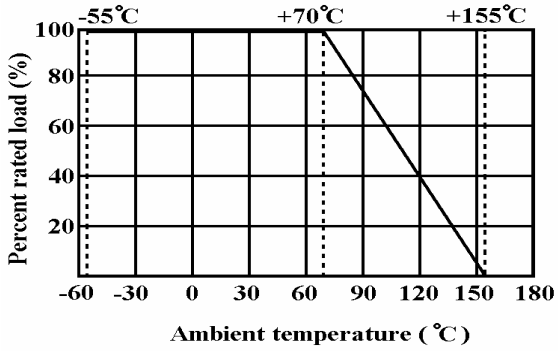
Note:

- Extra small size types (-SS) are non-flame coated.
- (2) Lead diameter of MF0W4, MF006 & MFFU2 can be provided in 0.50mm, 0.54mm & 0.60mm

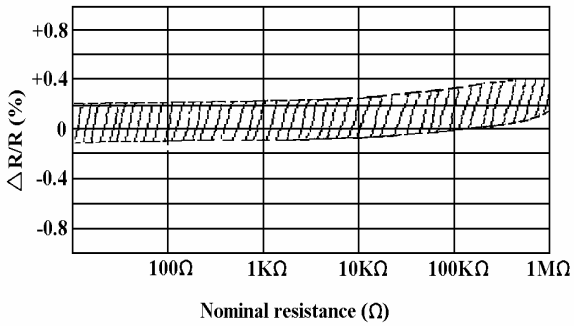
Current Noise Level



Derating Curve



Load Life



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General Specifications

Part No.	Style	Max. Working Voltage	Max. Overload Voltage	Dielectric With-standing Voltage	Resistance Tolerance	T.C.R.	Resistance Range	Special Order		
								Resistance Tolerance	T. C. R.	Resistance Range
MF0W8 MF0S4	MF-12 MF-25-S	200V	400V	400V	± 5% ± 2% ± 1%	±200PPM/°C ±100PPM/°C ±50PPM/°C	1Ω - 1MΩ 10Ω - 1MΩ 10Ω - 1MΩ	±0.25% ±0.5%	±15PPM/°C ±25PPM/°C ±50PPM/°C	51.1Ω-200KΩ 51.1Ω-511KΩ
MFF04	MF-40-SS	200V	400V	200V						
MF0W4 MF006	MF-25 MF-60-S	250V	500V	500V	± 5% ± 2% ± 1%	±200PPM/°C ±100PPM/°C ±50PPM/°C	1Ω - 1MΩ 10Ω - 1MΩ 10Ω - 1MΩ	±0.1% ±0.25% ±0.5%	±15PPM/°C ±25PPM/°C ±50PPM/°C	100Ω–100KΩ 51.1Ω-330KΩ 10Ω–1MΩ
MFFU2	MF-50-SS	250V	500V	250V						
MF0W2 MF0S2	MF-50 MF-50S	350V	700V	700V	± 5% ± 2% ± 1%	±200PPM/°C ±100PPM/°C ±50PPM/°C	1Ω - 1MΩ 10Ω - 1MΩ 10Ω - 1MΩ	±0.1% ±0.25% ±0.5%	±15PPM/°C ±25PPM/°C ±50PPM/°C	100Ω–330KΩ 51.1Ω-511KΩ 10Ω–1MΩ
MF01W MF02W MF03W	MF-100 MF-200 MF-300	500V	1,000V	1,000V	± 5% ± 2% ± 1%	±200PPM/°C ±100PPM/°C ±50PPM/°C	10Ω - 1MΩ 51.1Ω - 1MΩ 51.1Ω - 1MΩ	±0.1% ±0.25% ±0.5%	±15PPM/°C ±25PPM/°C ±50PPM/°C	100Ω–330KΩ 51.1Ω-511KΩ 51.1Ω-1MΩ

Note: MF - xx - ss is Non-Flame coating.

Performance Specifications

Temperature coefficient	Within the maximum temperature coefficient specified
Short time overload	ΔR/R ≤ ±(0.5% + 0.05Ω), with no evidence of mechanical damage.
Dielectric withstanding voltage	No evidence of flashover, mechanical damage, arcing or insulation breakdown.
Pulse overload	ΔR/R ≤ ±(1.0% + 0.05Ω), with no evidence of mechanical damage.
Terminal strength	No evidence of mechanical damage.
Resistance to soldering heat	ΔR/R ≤ ±(1.0% + 0.05Ω), with no evidence of mechanical damage.
Solderability	Min. 95% coverage
Resistance to solvent	No deterioration of protective coating and markings.
Temperature cycling	ΔR/R ≤ ±(1.0% + 0.05Ω), with no evidence of mechanical damage.
Load life in humidity	Normal type: ΔR/R ≤ ± 1.5%; Non-Flame type: ΔR/R ≤ ± 5%
Load life	Normal type: ΔR/R ≤ ± 1.5%; Non-Flame type: ΔR/R ≤ ± 5%

More details, please see pages 77-78.