

PRECISION METAL FILM FIXED RESISTORS

Features

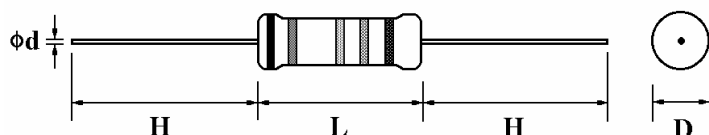
- EIA standard color coding
- Non - Flame type available
- Low noise & voltage coefficient
- Low temperature coefficient range
- Wide precision range in small package
- Multiple epoxy coating on vacuum deposited metal film provides superior moisture protection
- Nichrome resistor element provides stable 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			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			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		
Special Feature: 0 = Standard Product F = Non-Flame I = Non-Inductive			Tolerance: B = ±0.1% C = ±0.25% D = ±0.5% F = ±1% G = ±2% J = ±5%			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		
PPM requirement: B = 15PPM C = 25PPM F = 50PPM G = 100PPM J = 200PPM													
* 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

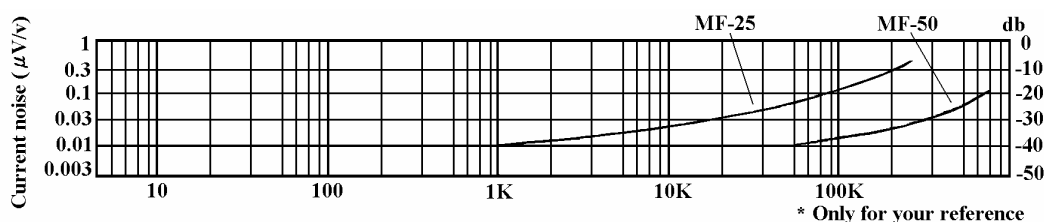
Small Size

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

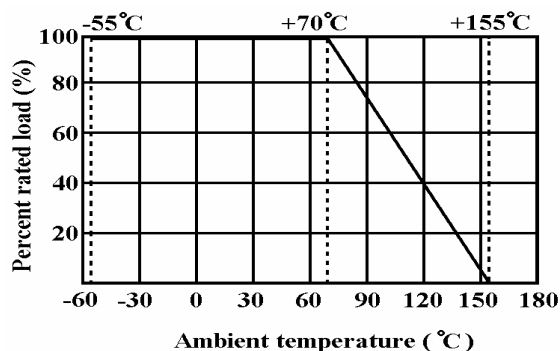
Note:

- 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

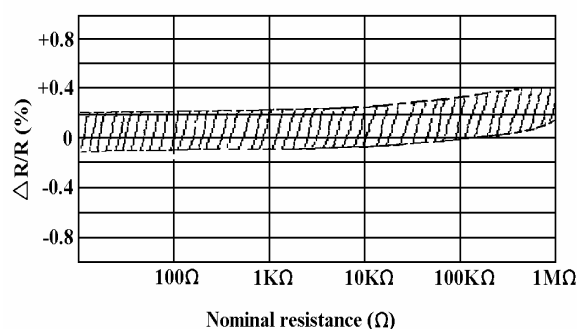
Current Noise Level



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%	±200PPM/°C	1Ω - 1MΩ	±0.25%	±15PPM/°C	51.1Ω-200KΩ
					± 2%	±100PPM/°C	10Ω - 1MΩ	±0.5%	±25PPM/°C	51.1Ω-511KΩ
MFF04	MF-40-SS	200V	400V	200V	± 1%	±50PPM/°C	10Ω - 1MΩ		±50PPM/°C	
MF0W4 MF006	MF-25 MF-60-S	250V	500V	500V	± 5%	±200PPM/°C	1Ω - 1MΩ	±0.1%	±15PPM/°C	100Ω-100KΩ
					± 2%	±100PPM/°C	10Ω - 1MΩ	±0.25%	±25PPM/°C	51.1Ω-330KΩ
MFFU2	MF-50-SS	250V	500V	250V	± 1%	±50PPM/°C	10Ω - 1MΩ	±0.5%	±50PPM/°C	10Ω-1MΩ
MF0W2 MF0S2	MF-50 MF-50S	350V	700V	700V	± 5%	±200PPM/°C	1Ω - 1MΩ	±0.1%	±15PPM/°C	100Ω-330KΩ
					± 2%	±100PPM/°C	10Ω - 1MΩ	±0.25%	±25PPM/°C	51.1Ω-511KΩ
					± 1%	±50PPM/°C	10Ω - 1MΩ	±0.5%	±50PPM/°C	10Ω-1MΩ
MF01W MF02W MF03W	MF-100 MF-200 MF-300	500V	1,000V	1,000V	± 5%	±200PPM/°C	10Ω - 1MΩ	±0.1%	±15PPM/°C	100Ω-330KΩ
					± 2%	±100PPM/°C	51.1Ω - 1MΩ	±0.25%	±25PPM/°C	51.1Ω-511KΩ
					± 1%	±50PPM/°C	51.1Ω - 1MΩ	±0.5%	±50PPM/°C	51.1Ω-1MΩ

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

Performance Specifications

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

**More details, please see pages 77-78.*