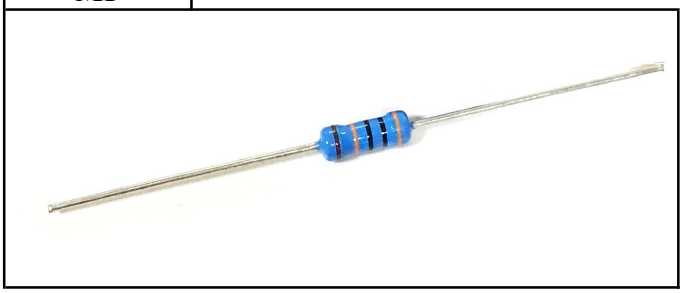
Metal Film Resistors - MF/MF-S series

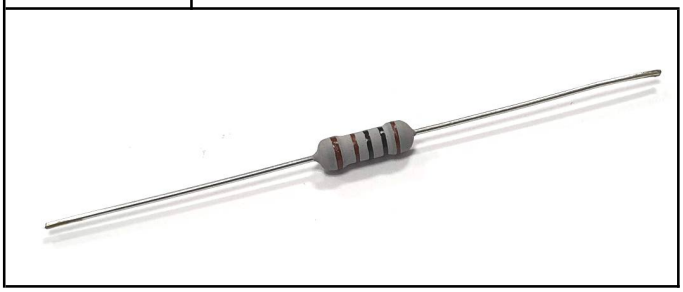
FEATURES

- Power Rating: 1/8W to 2W at 70°C
- Superior electrical performance
- Standard T.C.R : ±50PPM (15/25 ppm is available) , FMF 5W is 100ppm
- Standard Tolerance: ±1% (available 0.1% - 5%)
- Standard Value: 10R-1Meg in E24/E96 series
- Body Color: blue
- Flameproof coating available (As FMF type)
- Mini size available (As MF-S type)
- Operating Temperature : -55ºC ~+155ºC

MF



FMF

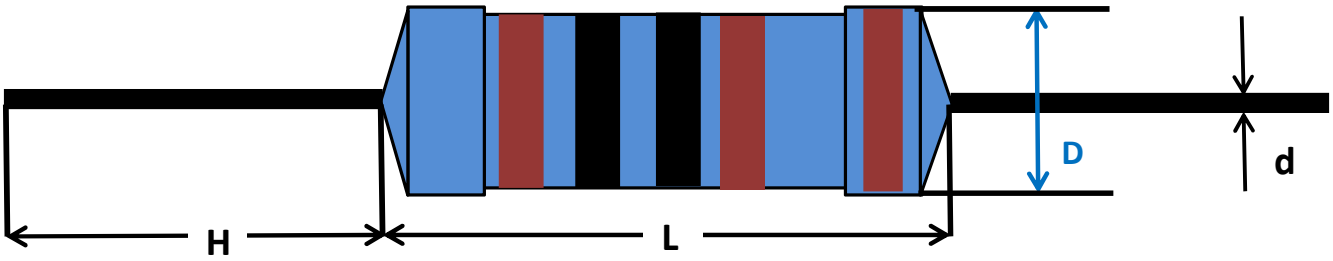


MATERIAL

- Element: Vacuum-deposited Ni-Cr Alloy
- Core: High purity ceramic Al_2O_3
- Termination: Standard solder-plated cooper lead
- Coating: Epoxy (FMF is silicone)

HF RoHS Compliant

GENERAL SPECIFICATION



MF-series

TYPE	DIMENSION (mm)				POWER	MAXIMUM WORKING VOLTAGE	MAXIMUM OVERLOAD VOLTAGE	RESISTANCE RANGE ±1%
	L	D	H	d				
MF-1/8W	3.2±0.2	1.6±0.2	27 ±3.0	0.45± 0.05	1/8W	200V ★	400V ★★	1Ω~10MΩ
MF-1/4W	6.0±0.5	2.3±0.3	27 ±3.0	0.55± 0.05	1/4W	250V	500V	1Ω~10MΩ
MF-1/2W	9.0±0.5	3.0±0.5	27 ±3.0	0.59±0.05	1/2W	350V	700V	1Ω~10MΩ
MF-1W	11±2.0	4.0±1.0	33 ±3.0	0.8± 0.05	1W	500V	1000V	1Ω~10MΩ
MF-2W	15±2.0	5.0±1.0	33 ±3.0	0.8± 0.05	2W	500V	1000V	1Ω~10MΩ
FMF-3W	17±2.0	6.0±1.0	33 ±3.0	0.8± 0.05	3W	500V	1000V	1Ω~10MΩ
FMF-5W	24±2.0	8.0±1.0	38 ±3.0	0.8± 0.05	5W	500V	1000V	1Ω~10MΩ

MF-S-series

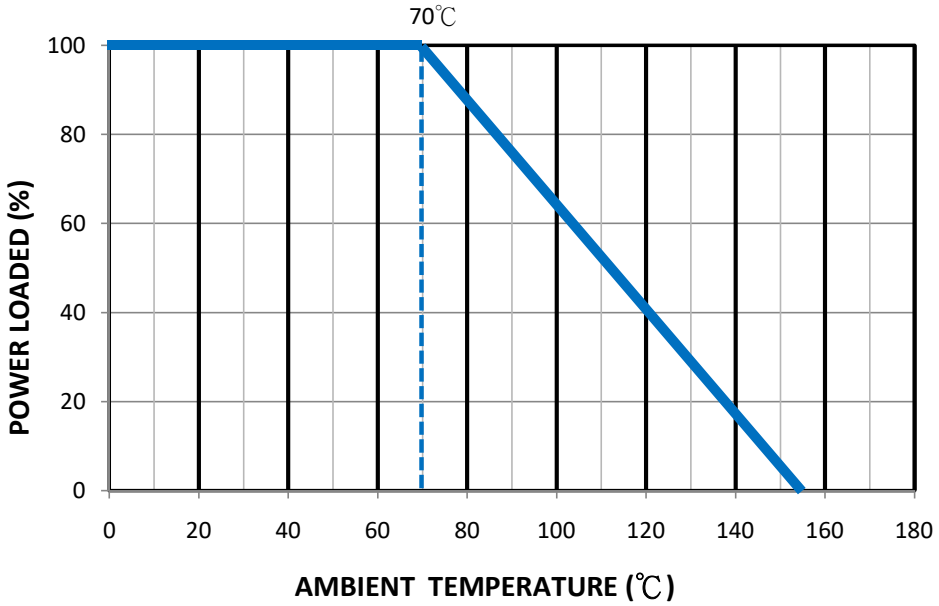
TYPE	DIMENSION (mm)				POWER	MAXIMUM WORKING VOLTAGE	MAXIMUM OVERLOAD VOLTAGE	RESISTANCE RANGE ±5%
	L	D	H	d				
MF-1/4WS	3.2±0.2	1.6±0.2	27 ±3.0	0.45± 0.05	1/4W	200V ★	400V ★★	1Ω~10MΩ
MF-1/2WS	6.0±0.5	2.3±0.3	27 ±3.0	0.55± 0.05	1/2W	250V	500V	1Ω~10MΩ
MF-1WS	9.0±0.5	3.0±0.5	27 ±3.0	0.59±0.05	1W	350V	700V	1Ω~10MΩ
MF-2WS	11±2.0	4.0±1.0	33 ±3.0	0.8± 0.05	2W	500V	1000V	1Ω~10MΩ
MF-3WS	15±2.0	5.0±1.0	33 ±3.0	0.8± 0.05	3W	500V	1000V	1Ω~10MΩ

* Maximum Working Voltage determined by $E=\sqrt{(PxR}$ where E should not exceed value listed in column above.

** Maximum Overload Voltage equals to 2.5xE, but should not exceed value listed in column above

*** Consult factory for resistance is not inclueded in the column

DERATING CURVE



CHARACTERISTIC

TEST	TEST METHOD	APPRAISE
Temperature Coefficient	IEC 60115-1 4.8 -55℃~155℃	By type
Load Life (1000 hours)	IEC 60115-1 4.25 70±2℃ at RCWV for 1000 hours (1.5 Hr. on , 0.5 Hr. off)	<±0.5%+0.05Ω
Shorttime Overload	IEC 60115-1 4.13 2.5 times rated power for 5 sec.	<±0.25%+0.05Ω
Temperature Cycling	IEC 60115-1 4.19 -55℃ → room temp. → +155℃ → room temp. (5 cycles)	<±0.5%+0.05Ω
Moisture Resistance	IEC 60115-1 4.24 40±2℃ , 90-95% RH for 56 days , with 0.1 times RCWV	<±0.5%+0.05Ω
Solderability	IEC 60115-1 4.17 235±5℃ for 3±0.5 sec.	95% min. coverage
Effect of Soldering	IEC 60115-1 4.18 260±3℃ for 10±1 sec. immersed to point 3±0.5mm from the body	<±0.2%+0.05Ω

HOW TO ORDER :

SERIES	WATTAGE	RESISTANCE	TOLERANCE	PACKAGE	TCR
MF	1/8W	0R1=0.1Ω	1%	T=TAPING BOX	50ppm
FMF	1/4WS	10R=10Ω	0.5%	R=TAPING REEL	25ppm
	:	1K=1KΩ	0.25%	B=BULK	15ppm
	3WS		0.1%		:
	5W				

PACKAGE STANDARD PACKAGE QUANTITY :

TYPE	T=TAPING BOX	R=TAPING REEL	B=BULK
1/8W-1/4WS	5000	5000	1000 pcs/bag , 10kpcs/box
1/4W-1/2WS	5000	5000	1000 pcs/bag , 10kpcs/box
1/2W-1WS	2000	2500	500 pcs/bag , 5kpcs/box
1W-2WS	1000	2000	500 pcs/bag , 2kpcs/box
2W-3WS	1000	1000	500 pcs/bag , 1kpcs/box
3W-5WS	500	1000	500 pcs/bag , 1kpcs/box
5W	250	500	