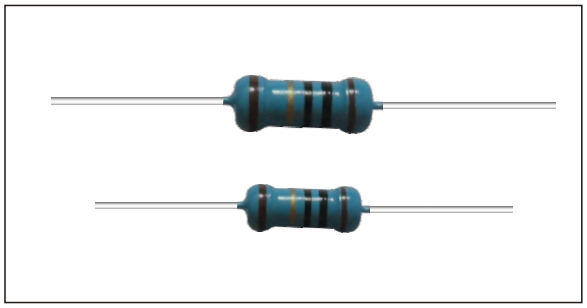
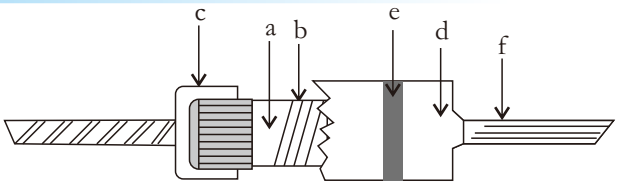
MFR Metal Film Fixed Resistor



Features

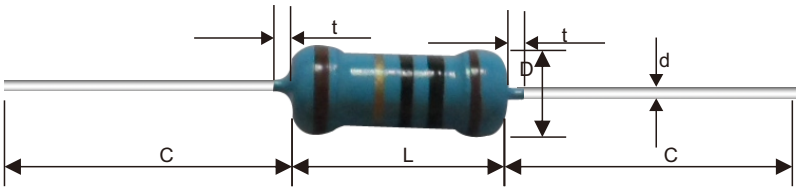
Ⅰ Low temperature coefficient, high precision, and good high frequency performance.
Ⅱ Operating ambient temperature:-55℃ ~+155℃
Ⅲ Film the metal in vacuum, the surface coating is blue resin with the good waterproof.
Ⅳ Resistance tolerance: ±5%、 ±1%.

Construction



a	High AL_2O_3
b	High Stability Electric Conduction Film
c	Iron Cap
d	Epoxy Resin Coating
e	Color Ring
f	Tinned copper lead wire

Dimensions



Type	Power	Dimensions(mm)				
		L±1	D±0.5	C±3	d±0.05	tMax
MFR016	1/6W	3.5	1.7	28	0.43	1.5
MFR14S	1/4WS	3.5	1.7	28	0.43	1.5
MFR014	1/4W	6.0	2.3	28	0.45	1.5
MFR12S	1/2WS	6.0	2.3	28	0.45	2.0
MFR012	1/2W	9.0	3.2	28	0.50	2.0
MFR01S	1WS	9.0	3.2	28	0.55	2.5
MFR01B	1W	11.0	4.5	30	0.60	2.5
MFR02S	2WS	11.0	4.5	30	0.60	2.5
MFR02B	2W	16.0	5.0	30	0.70	2.5
MFR03S	3WS	16.0	5.0	30	0.70	2.5
MFR03B	3W	18.0	6.0	30	0.75	2.5
MFR04	4W	18.0	6.0	30	0.75	2.5
MFR05S	5WS	18.0	6.0	33	0.75	2.5
MFR05	5W	24.0	8.0	33	0.75	2.5

Ordering Information

Example:

MFR	01B	F	100K0
(1)	(2)	(3)	(4)
Series Name	Power Rating	Resistance Tolerance	Resistance

(1)Type: MFR SERIES
(2)Power Rating: 01B=1W,02S=2WS,02B=2W...
(3)Tolerance:F=±1%、J=±5%
(4)Resistance Value:0R100=0.1Ω,0R220=0.22Ω,10R00=10Ω,10K00=10KΩ,1M000=1MΩ

Reference Standards

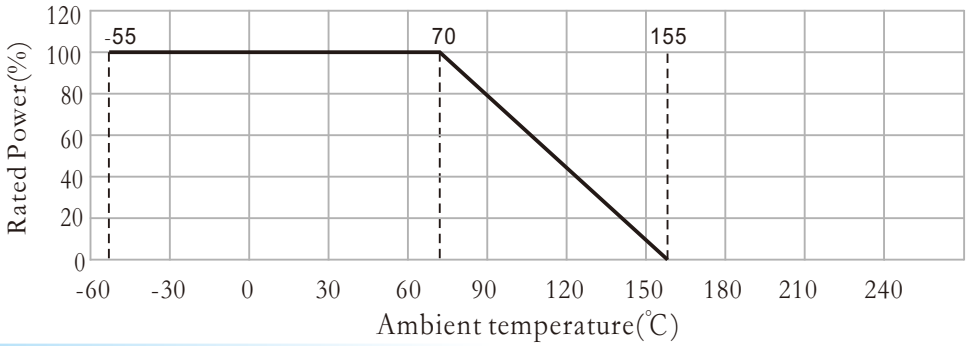
JISC 5201-1

Applications And Ratings

Type	Power	Resistance Range (Ω)	Max. working voltage	Max. overload voltage	Max. Pulse voltage	Max. Insulation voltage
MFR016	1/6W	0R1~22M	150V	300V	500V	300V
MFR14S	1/4WS	0R1~22M	150V	300V	500V	300V
MFR014	1/4W	0R1~22M	250V	500V	750V	500V
MFR12S	1/2WS	0R1~22M	250V	500V	750V	500V
MFR012	1/2W	0R1~22M	350V	700V	1000V	700V
MFR01S	1WS	0R1~22M	350V	700V	1000V	700V
MFR01B	1W	0R1~22M	500V	1000V	1000V	1000V
MFR02S	2WS	0R1~22M	500V	1000V	1000V	1000V
MFR02B	2W	0R1~22M	500V	1000V	1000V	1000V
MFR03S	3WS	0R1~22M	500V	1000V	1000V	1000V
MFR03B	3W	0R1~22M	700V	1200V	1200V	1000V
MFR04	4W	0R1~22M	700V	1200V	1200V	1000V
MFR05S	5WS	0R1~22M	700V	1200V	1200V	1000V
MFR05	5W	0R1~22M	700V	1200V	1200V	1000V

Note: a、"S"means small size.
b 、Rated voltage=$\sqrt{\text{Power} \times \text{Resistance Value}}$
c、If the rated voltage calculated is higher than max.working voltage, follow the lower value.

Derating Curve



Performance

Test Items	Performance	Test Methods(JIS C 5201-1)
Temperature coefficient	±50ppm/℃ ±100ppm/℃	Test resistance value at normal temperature and normal temperature added 100℃, calculate ℃ resistance value change rate.
Short time overload	△R≤±(0.5%R0+0.05Ω)	2.5X rated power or Max. overload voltage(get the lower) for 5seconds.
Pulse overload	△R≤±(1%R0+0.05Ω)	At 4Xrated power or Max. pulse overload voltage(get the lower)cycle 10000±200 times (1second on 25 seconds off)
Resistance to soldering heat	△R≤±(0.5%R0+0.05Ω)	Immerge into the 350±10℃ tin stove for 2~3 seconds
Solderability	Tth soldering area is over 95%	Immerge into the 245±3℃ tin stove for 2~3 seconds
Temperature cycle	△R≤±(0.5%R0+0.05Ω)	At-55℃ for 30min, then at+25℃ for 10~15min,then at +125℃ for 30min, then at +25℃ for 10~5, min,total 5cycles.
Load life in humidity	△R≤±(2%R0+0.05Ω)	Overload rated voltage or Max.working voltage(get the lower)for 1000hours(1.5hours on and half-hour off) at the 40±2℃and 90~95% relative humidity.
Load life in heat	△R≤±(2%R0+0.05Ω)	Overload rated voltage or Max.working voltage(get the lower)for 1000hours(1.5hours on and half-hour off) at the 70±2℃.