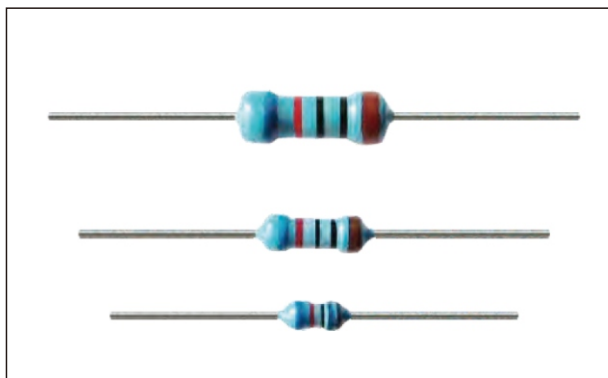




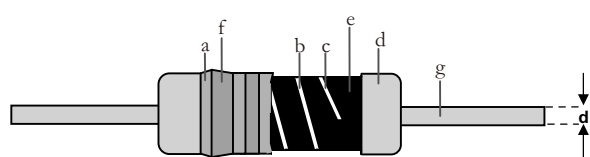
Features

- I High precision, high stability.
- II Low noise coefficient.
- III Excellent high frequency characteristic.
- IV High thermal conductivity.

Applications

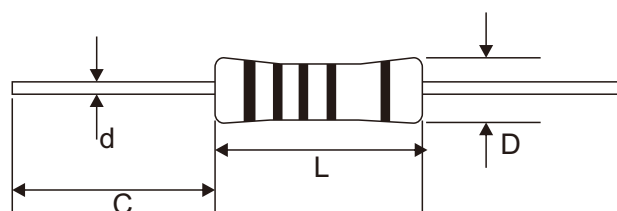
- I Telecom.
- II Medical and calibration equipment.
- III Industrial process control systems.
- IV Audio and video.
- V Precision equipment, military and avionics

Constructions



a	Insulation Coating (Expose resin)
b	Trimming Line
c	Ceramic Rod (Alumina ceramic)
d	Electrode Cap (Tinned iron cap)
e	Resistor Layer (Nickel alloy)
f	Marking (Expose)
g	Lead Wire (Tinned annealed copper wire)

Dimensions



Type	Power (W)	Dimensions(mm)			
		L	D	C	d
MFP	1/8W	3.3 ± 0.5	1.8 ± 0.3	26 ± 3	0.43 ± 0.05
MFP	1/4W	6.3 ± 0.5	2.3 ± 0.3	26 ± 3	0.45 ± 0.05
MFP	1/2W	9.0 ± 0.5	3.2 ± 0.5	26 ± 3	0.50 ± 0.05
MFP	1W	12 ± 1.0	4.5 ± 0.5	26 ± 3	0.60 ± 0.05
MFP	2W	15 ± 1.0	5.0 ± 0.5	26 ± 3	0.70 ± 0.05

Ordering Information

Example:

MFP	1/8	B	C	T	10R0
(1)	(2)	(3)	(4)	(5)	(6)
Series Name	Power Rating	Resistance Tolerance	TCR	Packaging	Resistance

(1)Type: MFD SERIES

(2)Power Rating: 1/8=1/8W、1/4=1/4W、1/2=1/2W、3/4=3/4W、1=1W

(3)Tolerance: P=±0.02%、W=±0.05%、B=±0.1%、D=±0.5%、F=±1%

(4)TCR: C7=±5ppm/°C;C6=±10ppm/°C;C5=±15ppm/°C;C4=±20ppm/°C;

(5)Packaging: B=bulk, T=Tape&Reel

(6)Resistance Value:10R0=10R、R10=0.1Ω、47R0=47Ω

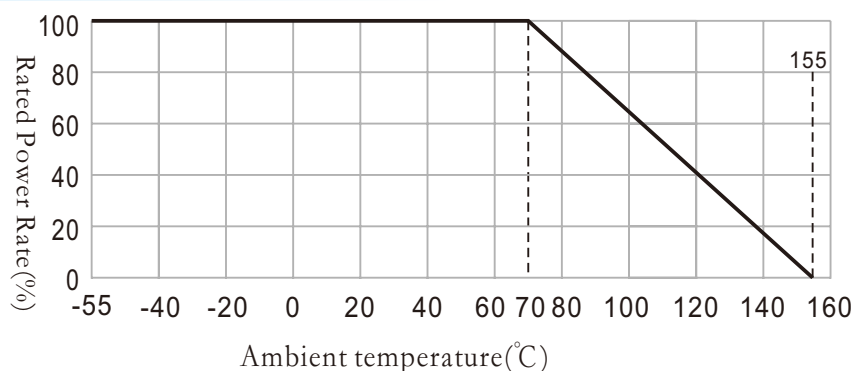
Reference Standards

MIL-STD-202

Applications And Ratings

Type	Rated Power (W)	MaxWorking Voltage(V)	Insulation Voltage(V)	Resistance Range(Ω)	(+25~85°C) TCR(PPM/°C)	Tolerance Range	Power Rating Ambient Temperature	Operating Temperature
MFP	1/8W	200	300	0.1~2M	$\pm 5\text{PPM}$ $\pm 10\text{PPM}$ $\pm 15\text{PPM}$ $\pm 25\text{PPM}$ $\pm 50\text{PPM}$ $\pm 100\text{PPM}$	$\pm 0.05\%$ $\pm 0.1\%$ $\pm 0.25\%$ $\pm 0.5\%$ $\pm 1.0\%$ $\pm 5.0\%$	-55~70°C	-55~155°C
	1/4W	250	350	0.1~15M				
	1/2W	350	500	0.1~22M				
	1W	500	500	0.1~22M				
	2W	500	500	0.1~22M				

Derating Curve



Performance Characteristics

Item	Requirement	Test Method
Temperature Coefficient	By Type	Resistance value at room temperature and room temperature+100°C
Short Time Overload	$\pm 0.25\%$	RCWV*2.5 or Max. overload voltage for 5 seconds
Insulation Resistance	$>1000\text{M}\Omega$	Apply 100V _{DC} for 1 minute
Endurance	$\pm 0.2\%$	70 $\pm$ 2°C, Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"
Damp Heat with Load	$\pm 0.3\%$	40 $\pm$ 2°C, 90~95% R.H. Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"
Solderability	95% min. coverage	245 $\pm$ 5°C for 3 seconds
Dielectric Withstanding Voltage	By Type	Apply Max. overload voltage for 1 minute
Pulse Overload	$\pm 0.75\%$	RCWVX4 for 10000 cycles with 1 second "ON" and 25 seconds "OFF"
Resistance to Solvent	No deterioration of coatings and markings	Trichloroethane for 1 min, with ultrasonic
Terminal Strength	Tensile: $\geq 2.5\text{kg}$	Direct load for 10sec in the direction off the terminal leads
Shelf Life	$\Delta R \pm 0.1\%$	12 months at room temperature 25 $\pm$ 3°C, 80%RH Max