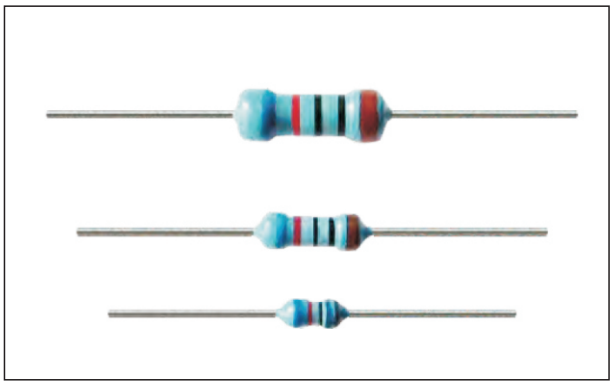
MFP Precision Metal Film Resistors



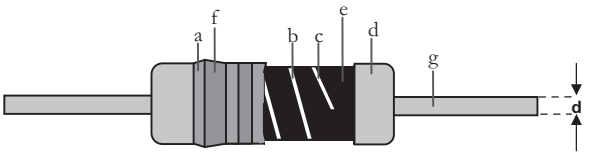
Features

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

Applications

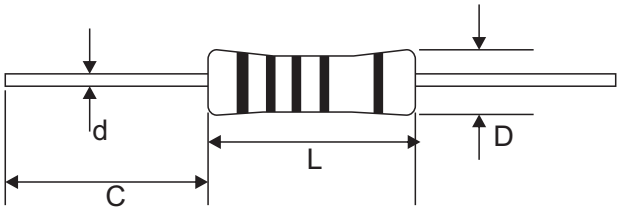
Ⅰ Telecom.
Ⅱ Medical and calibration equipment.
Ⅲ Industrial process control systems.
Ⅳ Audio and video.
Ⅴ Precision equipment, military and avionics

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	0.5±0.05
MFP	1/4W	6.3±0.5	2.3±0.3	26±3	0.6±0.05
MFP	1/2W	9.0±0.5	3.2±0.5	26±3	0.6±0.05
MFP	1W	12±1.0	4.5±0.5	26±3	0.75±0.05
MFP	2W	15±1.0	5.0±0.5	26±3	0.75±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:C8=±3ppm/℃; C7=±5ppm/℃;C6=±10ppm/℃;C5=±15ppm/℃;C4=±20ppm/℃;

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

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

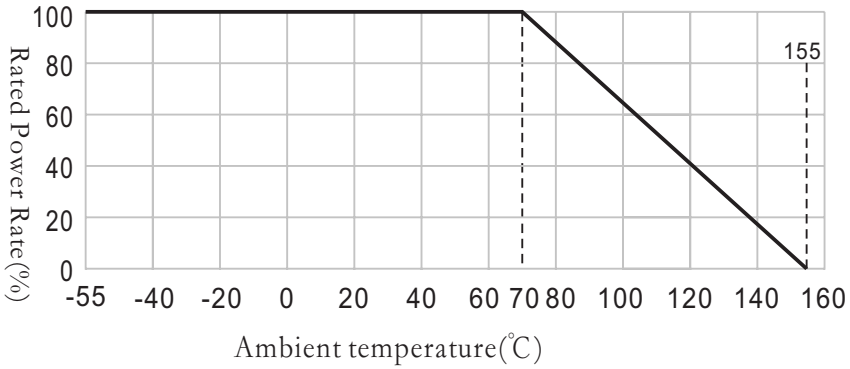
Reference Standards

MIL-STD-202

Applications And Ratings

Type	Rated Power (W)	MaxWorking Voltage(V)	Insulation Voltage(V)	Resistance Range(Ω)	(+25~85℃) TCR(PPM/℃)	Tolerance Range	Power Rating Ambient Temperature	Operating Temperature
MFP	1/8W	200	300	0.1~2M	±3PPM ±5PPM ±10PPM ±15PPM ±25PPM ±50PPM ±100PPM	±0.05% ±0.1% ±0.25% ±0.5% ±1.0% ±5.0%	-55~70℃	-55~155℃
	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℃
Short Time Overload	±0.25%	RCWV*2.5 or Max. overload voltage for 5 seconds
Insulation Resistance	>1000MΩ	Apply 100V$_{DC}$ for 1 minute
Endurance	±0.2%	70±2℃,Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"
Damp Heat with Load	±0.3%	40±2℃, 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±5℃ for 3 seconds
Dielectric Withstanding Voltage	By Type	Apply Max. overload voltage for 1 minute
Pulse Overload	±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:≥2.5kg	Direct load for 10sec in the direction off the terminal leads
Shelf Life	ΔR±0.1%	12 months at room temperature 25±3℃,80%RH Max