MR100 1W 1%

Metal Film Fixed Resistors

Flame-proof Coating Type

1. INTRODUCTION

This series of flame-proof type Metal Film Resistors are manufactured by vacuum deposit metal film on high thermal conductivity ceramic rods, and are coated with layers of gray color flame-proof lacquer. These flame-proof metal film resistors are designed to replace the metal oxide resistors and low power wire wound resistors, where flame-proof and small size is needed.

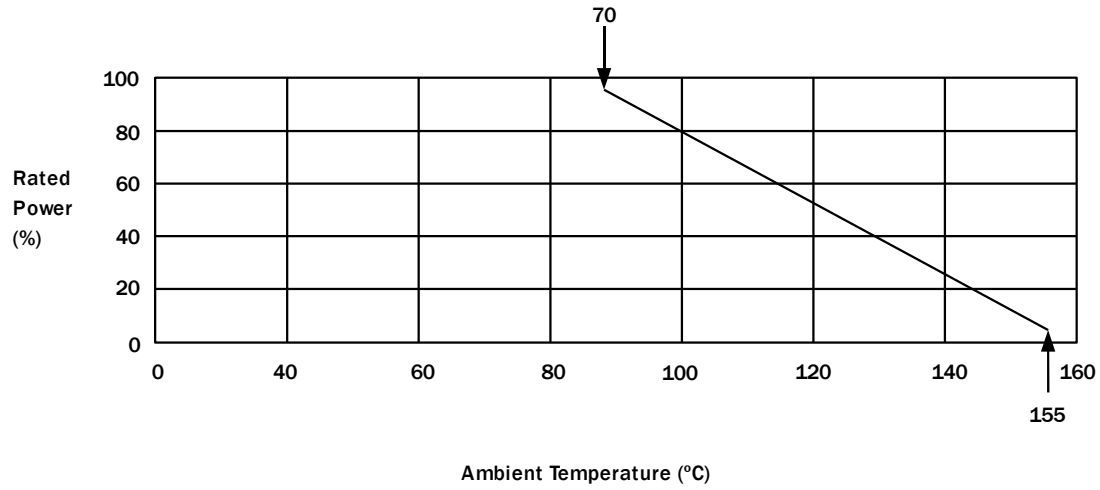
2. ELECTRICAL CHARACTERISTICS

Power rating @ 70°C	1W
Operating temperature range	–55°C to +155°C
Maximum working voltage	500V
Maximum overload voltage	1000V
Dielectric withstanding voltage	1000V

3. POWER RATING

Power derating

The rated power at the temperature in excess of 70°C shall be derated in accordance with the graph below.



Rated voltage

The DC or AC (rms) continuous working voltage corresponding to the rated power is determined by the following formula:

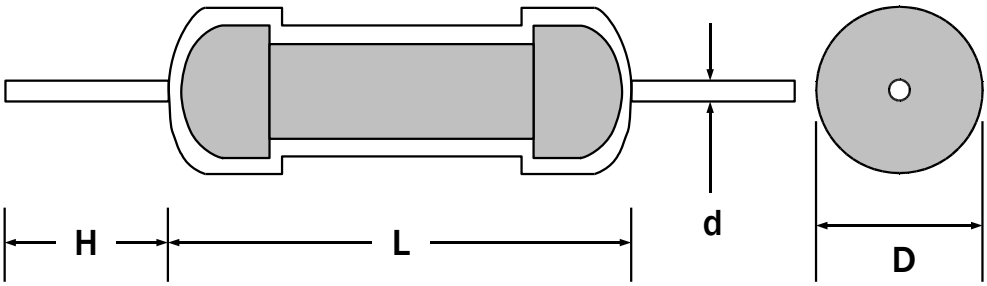
$$E = \sqrt{R \times P}$$

Where E: Continuous rated DC or AC (rms) working voltage (V)

P: Rated power (W)

R: Resistance value (Ω)

4. DIMENSIONS



Dimension	Value
L	11 ±1.0
D	4.5 ±0.5
H	35 ±3
d	0.8 ±0.1

mm

5. CHARACTERISTICS

Short time overload

Test method:	2.5x RCWV for 5s
Acceptance standard:	± (0.5% + 0.05Ω)

Insulation resistance

Test method:	In V-Block
Acceptance standard	>1000MΩ

Solderability

Test method:	260° for 5s ±0.5
Acceptance standard	95% minimum coverage

Resistance to solvent

Test method:	Trichloroethane for 1 mins. with ultrasonic
Acceptance standard	No deterioration of coatings and markings

Terminal strength

Test method:	Direct load for 10s in the direction of the terminal leads
Acceptance standard	≥2.5kg (24.5N)

Pulse overload

Test method:	4x RCWV 10,000 cycles (1s on, 25s off)
Acceptance standard	± (2% +0.05Ω)

Load life in humidity

Test method:	40°C ±2°C 90 to 95% RH at RCWV for 1000 hours (1.5hr. on, 0.5hr. off)
Acceptance standard	± (1.5% +0.05Ω)

5. CHARACTERISTICS (continued)

Load life

Test method: 70°C at RCWV for 1000 hr. (1.5hr. on, 0.5hr. off)

Acceptance standard: ± (1% + 0.05Ω)

Temperature cycling

Test method: —65°C → room temp. → 150°C → room temp. for 5 cycles

Acceptance standard ± (0.5% + 0.05Ω)

Resistance to soldering heat

Test method: 350°C ±10°C for 3s ±0.5s

Acceptance standard ± (0.5% + 0.05Ω)

Rated Continuous Working Voltage (RCWV) =

$$\sqrt{power\ rating \times resistance\ value}$$