



Metal Oxide Film Resistors

FLAME-PROOF TYPE

Normal & Miniature Style [RSF Series]

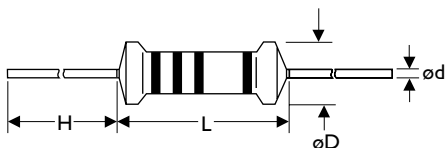


INTRODUCTION

These Metal Oxide Resistors offer excellent performance in applications where stability and uniformity of characteristics are desired. They provide lower cost alternatives to Carbon Composition Resistors and General Purpose Metal Films. Metal Oxides also can replace many low power General Purpose wirewound applications, saving both money and time, with shorter delivery cycles.

The normal style & the miniature style of RSF series are coated with layers of gray and pink colors flame-proof lacquer respectively.

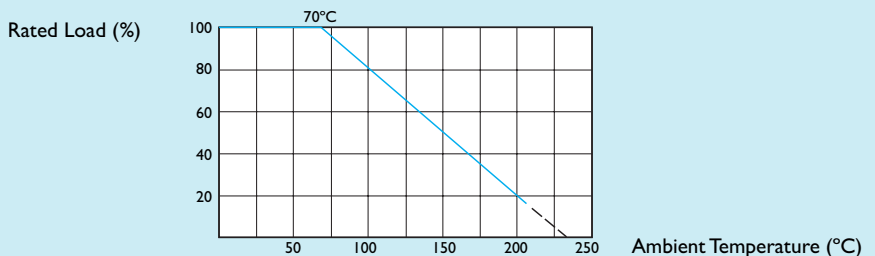
DIMENSIONS



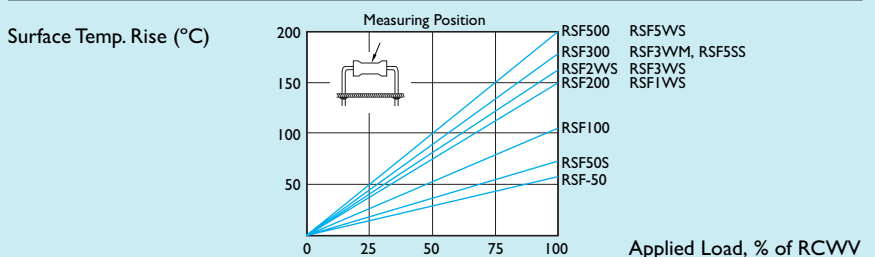
FEATURES

- Low Cost, Prompt Delivery
- High Power-to-Size Ratio for Significant Space Savings
- Complete Flameproof Construction-UL 1412
- High Surge/Overload Capability
- Non-Inductive Design
- Wide Resistance Range: 1Ω ~ $1M\Omega$
- Resistance ToLerance: $\pm 5\%$

DERATING CURVE



HOT-SPOT TEMPERATURE



| STYLE | | DIMENSION | | | |
|--------|-----------|-----------|---------|--------|----------|
| Normal | Miniature | L | øD | H | ød |
| - | RSF50S | 6.3±0.5 | 2.3±0.3 | 28±2.0 | 0.6±0.05 |
| RSF-50 | - | 9.0±0.5 | 3.2±0.3 | 26±2.0 | 0.6±0.05 |
| - | RSF1WS | 9.0±0.5 | 3.2±0.3 | 26±2.0 | 0.6±0.05 |
| RSF100 | RSF2WS | 11.5±1.0 | 4.5±0.5 | 35±2.0 | 0.8±0.05 |
| RSF200 | RSF3WS | 15.5±1.0 | 5.0±0.5 | 33±2.0 | 0.8±0.05 |
| RSF5SS | RSF3WSM | 17.5±1.0 | 6.5±1.0 | 32±2.0 | 0.8±0.05 |
| RSF300 | RSF5WS | 24.5±1.0 | 8.5±1.0 | 38±2.0 | 0.8±0.05 |
| RSF500 | - | 24.5±1.0 | 8.5±1.0 | 38±2.0 | 0.8±0.05 |

Unit : mm

Note :

ELECTRICAL CHARACTERISTICS

| STYLE | RSF50S | RSF-50 | RSF1WS | RSF100 | RSF2WS | RSF200 | RSF3WS/ RSF3WM | RSF300 | RSF5SS/ RSF5WS | RSF500 |
|---------------------------------|-----------------|--------|--------|--------|--------|--------|-------------------|--------|-------------------|--------|
| Power Rating at 70°C | 1/2W | | 1W | | 2W | | 3W | | 5W | |
| Operating Temp. Range | -55°C to +155°C | | | | | | | | | |
| Maximum Working Voltage | 250V | 250V | 300V | 350V | 350V | 350V | 400V/450V | 500V | 500V/600V | 750V |
| Maximum Overload Voltage | 400V | 400V | 500V | 600V | 600V | 600V | 700V/700V | 800V | 800V/800V | 1000V |
| Dielectric Withstanding Voltage | 350V | 350V | 400V | 500V | 500V | 500V | 600V/600V | 700V | 700V/800V | 800V |
| Value Range ±5% | 1Ω~510KΩ | | | | | | | | | |
| Temperature Coefficient | ±300ppm/°C | | | | | | | | | |

* Standard resistance is 1Ω~510KΩ, below or over this resistance on request.

ENVIRONMENTAL CHARACTERISTICS

| PERFORMANCE TEST | TEST METHOD | | APPRAISE |
|---------------------------------------|--|---|---|
| Short Time Overload | JIS-C-5202 5.5 | 2.5 Times RCWV for 5 Seconds | ±(1%+0.05Ω) |
| Dielectric Withstanding Voltage | JIS-C-5202 5.7 | in V-Block for 60 Seconds | by Type |
| Temperature Coefficient of Resistance | JIS-C-5202 5.2 | -55°C to +155°C | ±200ppm/°C |
| Insulation Resistance | JIS-C-5202 5.6 | in V-Block | >1000MΩ |
| Solderability | JIS-C-5202 6.5 | 235°C for 5±0.5 Seconds | 95% Min. Coverage |
| Resistance to Solvent | JIS-C-5202 6.9 | Trichroethane for 1 Min. with Ultrasonic | No Deterioration of Coatings and Markings |
| Terminal Strength | Direct Load for 10 Sec. in The Direction of The Terminal Leads | | ≥2.5kg (24.5N) |
| Pulse Overload | JIS-C-5202 5.8 | 4 Times RCWV 10000 Cycles (1 Sec. on , 25 Sec. off) | ±(2%+0.05Ω) |
| Load Life in Humidity | JIS-C-5202 7.9 | 40±2°C, 90~95% RH at RCWV for 1000 Hrs. (1.5 Hrs. on , 0.5 Hrs. off) | ±(5%+0.05Ω) |
| Load Life | JIS-C-5202 7.10 | 70°C at RCWV for 1000 Hrs. (1.5 Hrs. on , 0.5 Hrs. off) | ±(5%+0.05Ω) |
| Temperature Cycling | JIS-C-5202 7.4 | -55°C → Room Temp. → +155°C → Room Temp. for 5 Cycles | ±(1%+0.05Ω) |
| Resistance to Soldering Heat | JIS-C-5202 6.4 | 350°C±10°C for 3±0.5 Seconds | ±(1%+0.05Ω) |

* Rated Continuous Working Voltage (RCWV)= $\sqrt{\text{Power Rating} \times \text{Resistance Value}}$