

- Features:
- Lower-cost alternative to carbon comps and wirewounds
  - Coating meets UL 94V-0
  - Meets solvent test of Mil Standard 202, Method 215
  - Cut and formed product is available on select sizes; contact factory for details
  - Higher or lower resistance values may be possible; contact factory
  - Flameproof
  - RoHS compliant / lead-free

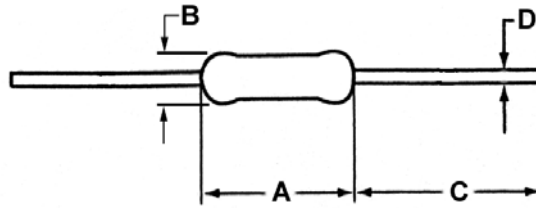


| Electrical Specifications |                             |                             |                          |                                 |                                    |                               |           |
|---------------------------|-----------------------------|-----------------------------|--------------------------|---------------------------------|------------------------------------|-------------------------------|-----------|
| Type / Code               | Power Rating (Watts) @ 70°C | Maximum Working Voltage (1) | Maximum Overload Voltage | Dielectric Withstanding Voltage | Resistance Temperature Coefficient | Ohmic Range (Ω) and Tolerance |           |
|                           |                             |                             |                          |                                 |                                    | 1%                            | 2%, 5%    |
| RSF12                     | 0.5W                        | 250V                        | 400V                     | 600V                            | ±200 ppm/°C                        | 0.1 - 75K                     | 0.1 - 1M  |
| RSF1                      | 1W                          | 350V                        | 600V                     | 600V                            | ±200 ppm/°C                        | 0.1 - 100K                    | 0.1 - 1M  |
| RSF2                      | 2W                          | 350V                        | 600V                     | 600V                            | ±200 ppm/°C                        | 0.1 - 120K                    | 0.1 - 1M  |
| RSF3                      | 3W                          | 400V                        | 700V                     | 600V                            | ±200 ppm/°C                        | 10 - 510K                     | 10 - 510K |
| RSF5                      | 5W                          | 750V                        | 1,000V                   | 1,000V                          | ±200 ppm/°C                        | 10 - 510K                     | 10 - 510K |
| RSMF12                    | 0.5W                        | 250V                        | 400V                     | 350V                            | ±200 ppm/°C                        | 0.1 - 47K                     | 0.1 - 1M  |
| RSMF1                     | 1W                          | 350V                        | 600V                     | 500V                            | ±200 ppm/°C                        | 0.1 - 75K                     | 0.1 - 1M  |
| RSMF2                     | 2W                          | 350V                        | 600V                     | 500V                            | ±200 ppm/°C                        | 0.1 - 100K                    | 0.1 - 1M  |
| RSMF3                     | 3W                          | 500V                        | 800V                     | 500V                            | ±200 ppm/°C                        | 0.1 - 118K                    | 0.1 - 1M  |
| RSMF5                     | 5W                          | 750V                        | 1,000V                   | 750V                            | ±200 ppm/°C                        | 1 - 510K                      | 1 - 510K  |

(1) Lesser of  $\sqrt{\text{PR}}$  or maximum working voltage

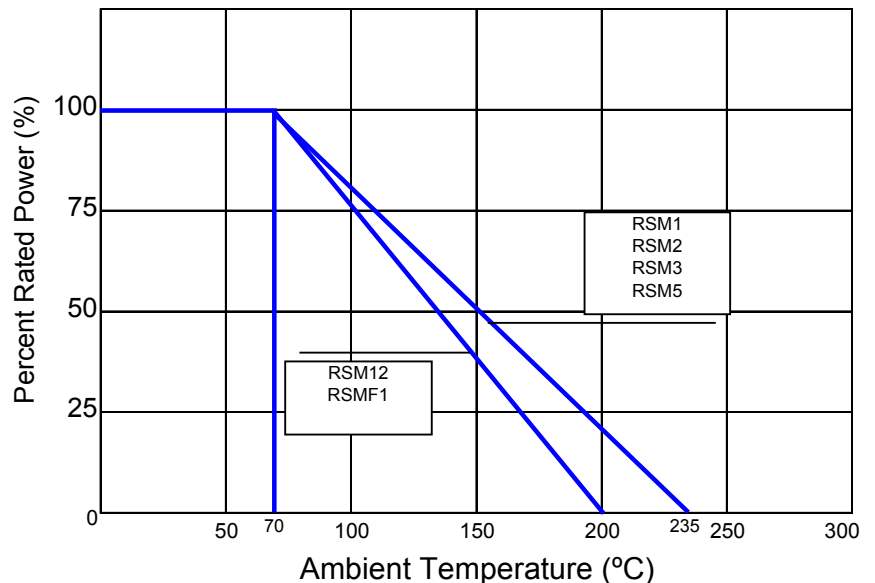
| Performance Characteristics     |                          |             |            |
|---------------------------------|--------------------------|-------------|------------|
| Test                            | Standard / Method        | Requirement |            |
|                                 |                          | RSMF Series | RSF Series |
| Short Time Over Load            | JISC 5202 5.5            | ± 2%        | ±1%        |
| Humidity                        | MIL-STD 202, Method 103  | ± 1.5%      |            |
| Dielectric Withstanding Voltage | MIL-STD 202, Method 301  | ± 0.5%      |            |
| Load Life                       | MIL-STD 202, Method 108  | ± 2%        |            |
| Load Life in Humidity           | JISC 5202 7.9            | ± 2%        |            |
| Temperature Cycling             | JESD22 Method JA-104     | ± 1%        |            |
| Moisture Resistance             | MIL-STD 202, Method 106  | ± 0.5%      |            |
| Resistance to Solder Heat       | MIL-STD 202, Method 210F | ± 1%        |            |
| Terminal Strength               | MIL-STD 202, Method 211  | ± 0.2%      |            |
| Vibration                       | MIL-STD 202, Method 201  | ± 0.5%      |            |

Operating Temperature Range: -55°C to +200°C (RSF 1/2, RSMF 1)  
-55°C to +235°C (All others)



| Mechanical Specifications |                  |                    |                         |                    |        |
|---------------------------|------------------|--------------------|-------------------------|--------------------|--------|
| Type / Code               | A<br>Body Length | B<br>Body Diameter | C<br>Lead Length (Bulk) | D<br>Lead Diameter | Unit   |
| RSF12                     | 0.35 ± 0.04      | 0.14 ± 0.02        | 1.1 ± 0.12              | 0.024 ± 0.003      | inches |
|                           | 9.0 ± 1.0        | 3.5 ± 0.5          | 28.0 ± 3.0              | 0.6 ± 0.01         | mm     |
| RSF1                      | 0.43 ± 0.04      | 0.18 ± 0.02        | 1.1 ± 0.20              | 0.028 ± 0.004      | inches |
|                           | 11.0 ± 1.0       | 4.5 ± 0.5          | 28.0 ± 5.0              | 0.7 ± 0.1          | mm     |
| RSF2                      | 0.59 ± 0.04      | 0.2 ± 0.04         | 1.26 ± 0.24             | 0.029 ± 0.004      | inches |
|                           | 15.0 ± 1.0       | 5.0 ± 1.0          | 32.0 ± 6.0              | 0.75 ± 0.1         | mm     |
| RSF3                      | 0.71 ± 0.08      | 0.26 ± 0.02        | 1.38 ± 0.12             | 0.031 ± 0.002      | inches |
|                           | 17.5 ± 2.0       | 6.5 ± 0.5          | 35.0 ± 3.0              | 0.8 ± 0.05         | mm     |
| RSF5                      | 0.96 ± 0.08      | 0.34 ± 0.02        | 1.38 ± 0.12             | 0.031 ± 0.002      | inches |
|                           | 24.5 ± 2.0       | 8.5 ± 0.5          | 35.0 ± 3.0              | 0.8 ± 0.05         | mm     |
| RSMF12                    | 0.26 ± 0.02      | 0.09 ± 0.01        | 1.1 ± 0.12              | 0.02 ± 0.003       | inches |
|                           | 6.5 ± 0.5        | 2.3 ± 0.2          | 28.0 ± 3.0              | 0.55 ± 0.07        | mm     |
| RSMF1                     | 0.35 ± 0.04      | 0.13 ± 0.02        | 1.1 ± 0.12              | 0.026 ± 0.003      | inches |
|                           | 9.0 ± 1.0        | 3.2 ± 0.6          | 28.0 ± 3.0              | 0.65 ± 0.01        | mm     |
| RSMF2                     | 0.43 ± 0.04      | 0.17 ± 0.03        | 1.18 ± 0.20             | 0.029 ± 0.004      | inches |
|                           | 11.0 ± 1.0       | 4.2 ± 0.8          | 30.0 ± 5.0              | 0.75 ± 0.1         | mm     |
| RSMF3                     | 0.59 ± 0.04      | 0.2 ± 0.04         | 1.26 ± 0.24             | 0.029 ± 0.004      | inches |
|                           | 15.0 ± 1.0       | 5.0 ± 1.0          | 32.0 ± 6.0              | 0.75 ± 0.1         | mm     |
| RSMF5                     | 0.71 ± 0.08      | 0.26 ± 0.02        | 1.38 ± 0.08             | 0.031 ± 0.002      | inches |
|                           | 17.5 ± 2.0       | 6.5 ± 0.5          | 35.0 ± 2.0              | 0.8 ± 0.05         | mm     |

**Power Derating Curve:**



**How to Order**

|          |          |          |          |          |          |          |          |          |          |          |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 1        | 2        | 3        | 4        | 5        | 6        | 7        | 8        | 9        | 10       | 11       |
| <b>R</b> | <b>S</b> | <b>F</b> | <b>1</b> | <b>2</b> | <b>J</b> | <b>T</b> | <b>R</b> | <b>4</b> | <b>7</b> | <b>0</b> |

| Product Series |             | Size | Power | Tolerance |     |       | Code | Description   | Size          | Quantity | Resistance Value   |
|----------------|-------------|------|-------|-----------|-----|-------|------|---------------|---------------|----------|--|
| RSF            | Metal Oxide | 12   | 0.5W  | Code      | Tol | Value | T    | Tape and Reel | RSMF12        | 5,000    | Four characters with the multiplier used as the decimal holder.<br><br>0.22 ohm = R220<br>33.2 ohm = 33R2<br>10.2 Kohm = 10K2<br>1 Mohm = 1M00 |
| RSMF           | Mini        | 1    | 1W    | F         | 1%  | E96   |      |               | RSMF12, RSMF1 | 2,500    |  |
| PRSF(1)        | Panasert    | 2    | 2W    | G         | 2%  | E24   |      |               | RSMF2, RSMF3  | 1,000    |  |
|                |             | 3    | 3W    | J         | 5%  |       |      |               | RSMF12        | 5,000    |  |
|                |             | 5    | 5W    |           |     |       |      |               | RSMF12, RSMF1 | 2,000    |  |
|                |             |      |       |           |     |       | A    | Ammo          | RSF1, RSF2    | 1,000    |  |
|                |             |      |       |           |     |       |      |               | RSMF2, RSMF3  | 1,000    |  |
|                |             |      |       |           |     |       | B    | Bulk          | RSF3, RSMF5   | 500      |  |
|                |             |      |       |           |     |       |      |               | all sizes     | 1,000    |  |

(1) For packaging information see Radial Ledged Packaging Spec page

Legacy Part Number (before January 3, 2011):

| SEI Type  |  | Code       | Nominal Resistance | Tolerance | Packaging |
|-----------|--|------------|--------------------|-----------|-----------|
| <b>RS</b> |  | <b>1/2</b> | <b>0.47</b>        | <b>5%</b> | <b>R</b>  |

| Type     | Description | Code | Wattage | Tolerance | Values | Types                     | Qty   | Description   | Code |
|----------|-------------|------|---------|-----------|--------|---------------------------|-------|---------------|------|
| RSF      | Metal Oxide | 1/2  | 0.5W    | 1%        | E96    | RSMF12                    | 5,000 | tape and reel | R    |
| RSMF     | Mini        | 1    | 1W      |           |        | RSF12, RSMF1, RSF1, RSMF2 | 2,500 |               |      |
| PRSF (1) | Panasert    | 2    | 2W      |           |        | RSF2, RSMF3               | 1,000 |               |      |
|          |             | 3    | 3W      | 2%        | E24    | RSMF12                    | 5,000 | ammo          | T    |
|          |             | 5    | 5W      |           |        | RSF12, RSMF1              | 2,000 |               |      |
|          |             |      |         |           |        | RSF1, RSF2, RSMF2, RSMF3  | 1,000 |               |      |
|          |             |      |         | 5%        | E24    | RSF3, RSMF5               | 500   | bulk          | A    |
|          |             |      |         |           |        | All                       | 1,000 |               |      |

(1) For packaging information see Radial Ledged Packaging Spec page