

- 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

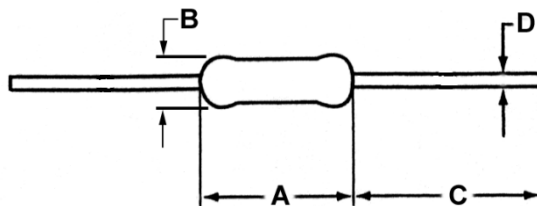


| Electrical Specifications |                                   |                                   |                                |                                       |                                          |                               |            |            |
|---------------------------|-----------------------------------|-----------------------------------|--------------------------------|---------------------------------------|------------------------------------------|-------------------------------|------------|------------|
| Type / Code               | Power Rating<br>(Watts)<br>@ 70°C | Maximum<br>Working<br>Voltage (1) | Maximum<br>Overload<br>Voltage | Dielectric<br>Withstanding<br>Voltage | Resistance<br>Temperature<br>Coefficient | Ohmic Range (Ω) and Tolerance |            |            |
|                           |                                   |                                   |                                |                                       |                                          | 1%                            | 2%         | 5%         |
| RSF12                     | 0.5W                              | 250V                              | 400V                           | 350V                                  | ±200 ppm/°C                              | 0.1 - 150K                    | 0.1 - 75K  | 0.1 - 1M   |
| RSF1                      | 1W                                | 350V                              | 600V                           | 600V                                  | ±200 ppm/°C                              | 0.1 - 100K                    | 0.1 - 100K | 0.1 - 1M   |
| RSF2                      | 2W                                | 350V                              | 600V                           | 600V                                  | ±200 ppm/°C                              | 0.1 - 120K                    | 0.1 - 120K | 0.1 - 1M   |
| RSF3                      | 3W                                | 800V                              | 1,000V                         | 750V                                  | ±200 ppm/°C                              | 0.1 - 470K                    | 0.1 - 560K | 0.1 - 1M   |
| RSF5                      | 5W                                | 1,000V                            | 1,000V                         | 750V                                  | ±200 ppm/°C                              | 0.1 - 470K                    | 0.1 - 560K | 0.1 - 1M   |
| RSMF12                    | 0.5W                              | 250V                              | 400V                           | 350V                                  | ±200 ppm/°C                              | 0.1 - 46.4K                   | 0.1 - 47K  | 0.1 - 470K |
| RSMF1                     | 1W                                | 350V                              | 600V                           | 500V                                  | ±200 ppm/°C                              | 0.1 - 75K                     | 0.1 - 75K  | 0.1 - 470K |
| RSMF2                     | 2W                                | 350V                              | 600V                           | 500V                                  | ±200 ppm/°C                              | 0.1 - 100K                    | 0.1 - 100K | 0.1 - 470K |
| RSMF3                     | 3W                                | 500V                              | 800V                           | 600V                                  | ±200 ppm/°C                              | 0.1 - 118K                    | 0.1 - 120K | 0.1 - 470K |
| RSMF5                     | 5W                                | 1,000V                            | 1,000V                         | 750V                                  | ±200 ppm/°C                              | 0.1 - 470K                    | 0.1 - 560K | 0.1 - 1M   |

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

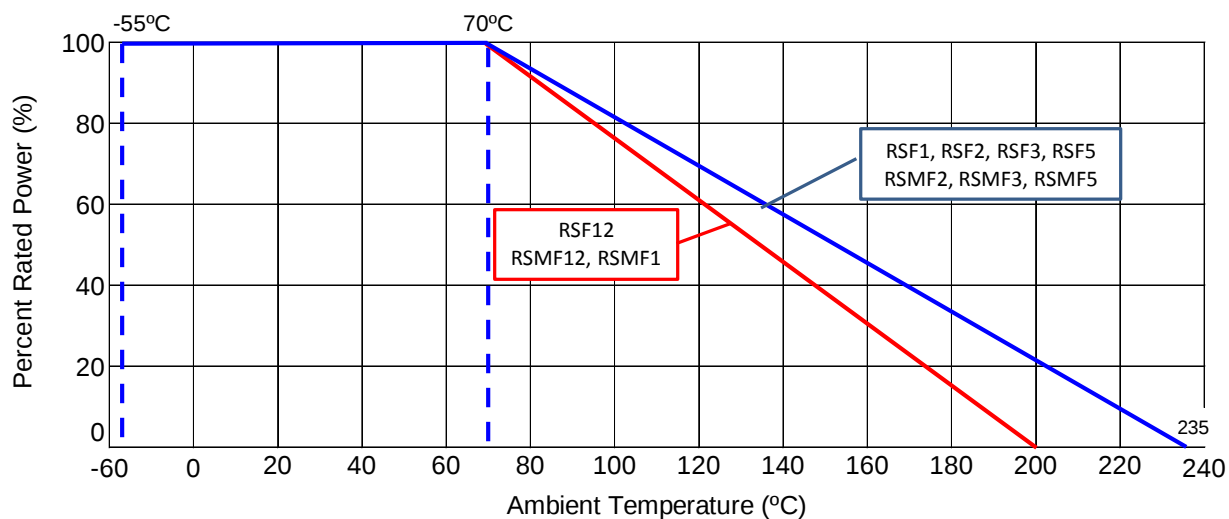
| Performance Characteristics     |                          |             |            |
|---------------------------------|--------------------------|-------------|------------|
| Test                            | Standard / Method        | Requirement |            |
|                                 |                          | 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%         |            |
| Insulation Resistance           | JIS C5201-1, IEC60115-1  | ≥ 1Gohm     |            |
| 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 (RSF12, RSMF12, RSMF1)  
-55°C to +235°C (All others)

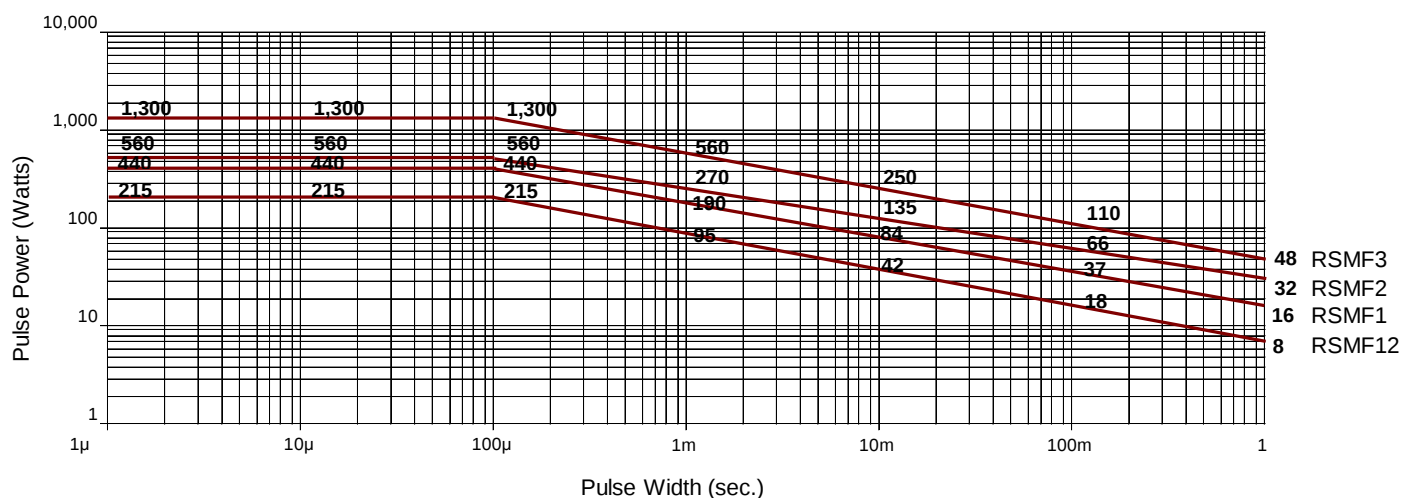


| Mechanical Specifications |                  |                    |                         |                    |                            |        |
|---------------------------|------------------|--------------------|-------------------------|--------------------|----------------------------|--------|
| Type / Code               | A<br>Body Length | B<br>Body Diameter | C<br>Lead Length (Bulk) | D<br>Lead Diameter | Lead-Tape<br>Specification | Unit   |
| RSF12                     | 0.35 ± 0.04      | 0.13 ± 0.03        | 1.10 ± 0.12             | 0.03 ± 0.003       | 0.250                      | inches |
|                           | 9.00 ± 1.00      | 3.20 ± 0.80        | 28.00 ± 3.00            | 0.70 ± 0.08        | 6.35                       | mm     |
| RSF1                      | 0.43 ± 0.06      | 0.18 ± 0.04        | 1.10 ± 0.20             | 0.03 ± 0.002       | 0.250                      | inches |
|                           | 11.00 ± 1.50     | 4.50 ± 1.00        | 28.00 ± 5.00            | 0.80 ± 0.05        | 6.35                       | mm     |
| RSF2                      | 0.59 ± 0.06      | 0.22 ± 0.04        | 1.18 ± 0.20             | 0.03 ± 0.004       | 0.250                      | inches |
|                           | 15.00 ± 1.50     | 5.50 ± 1.00        | 30.00 ± 5.00            | 0.75 ± 0.10        | 6.35                       | mm     |
| RSF3                      | 0.69 ± 0.04      | 0.24 ± 0.02        | 1.38 ± 0.12             | 0.03 ± 0.002       | 0.250                      | inches |
|                           | 17.50 ± 1.00     | 6.00 ± 0.50        | 35.00 ± 3.00            | 0.80 ± 0.05        | 6.35                       | mm     |
| RSF5                      | 0.96 ± 0.04      | 0.31 ± 0.02        | 1.38 ± 0.12             | 0.03 ± 0.002       | 0.250                      | inches |
|                           | 24.50 ± 1.00     | 8.00 ± 0.50        | 35.00 ± 3.00            | 0.80 ± 0.05        | 6.35                       | mm     |
| RSMF12                    | 0.24 ± 0.03      | 0.09 ± 0.01        | 1.10 ± 0.12             | 0.02 ± 0.003       | 0.250                      | inches |
|                           | 6.00 ± 0.80      | 2.30 ± 0.30        | 28.00 ± 3.00            | 0.55 ± 0.07        | 6.35                       | mm     |
| RSMF1                     | 0.35 ± 0.04      | 0.13 ± 0.03        | 1.10 ± 0.12             | 0.03 ± 0.003       | 0.250                      | inches |
|                           | 9.00 ± 1.00      | 3.20 ± 0.80        | 28.00 ± 3.00            | 0.70 ± 0.08        | 6.35                       | mm     |
| RSMF2                     | 0.43 ± 0.06      | 0.18 ± 0.04        | 1.18 ± 0.20             | 0.03 ± 0.002       | 0.250                      | inches |
|                           | 11.00 ± 1.50     | 4.50 ± 1.00        | 30.00 ± 5.00            | 0.80 ± 0.05        | 6.35                       | mm     |
| RSMF3                     | 0.59 ± 0.06      | 0.22 ± 0.04        | 1.18 ± 0.20             | 0.03 ± 0.004       | 0.250                      | inches |
|                           | 15.00 ± 1.50     | 5.50 ± 1.00        | 30.00 ± 5.00            | 0.75 ± 0.10        | 6.35                       | mm     |
| RSMF5                     | 0.69 ± 0.04      | 0.24 ± 0.02        | 1.38 ± 0.08             | 0.03 ± 0.002       | 0.250                      | inches |
|                           | 17.50 ± 1.00     | 6.00 ± 0.50        | 35.00 ± 2.00            | 0.80 ± 0.05        | 6.35                       | mm     |

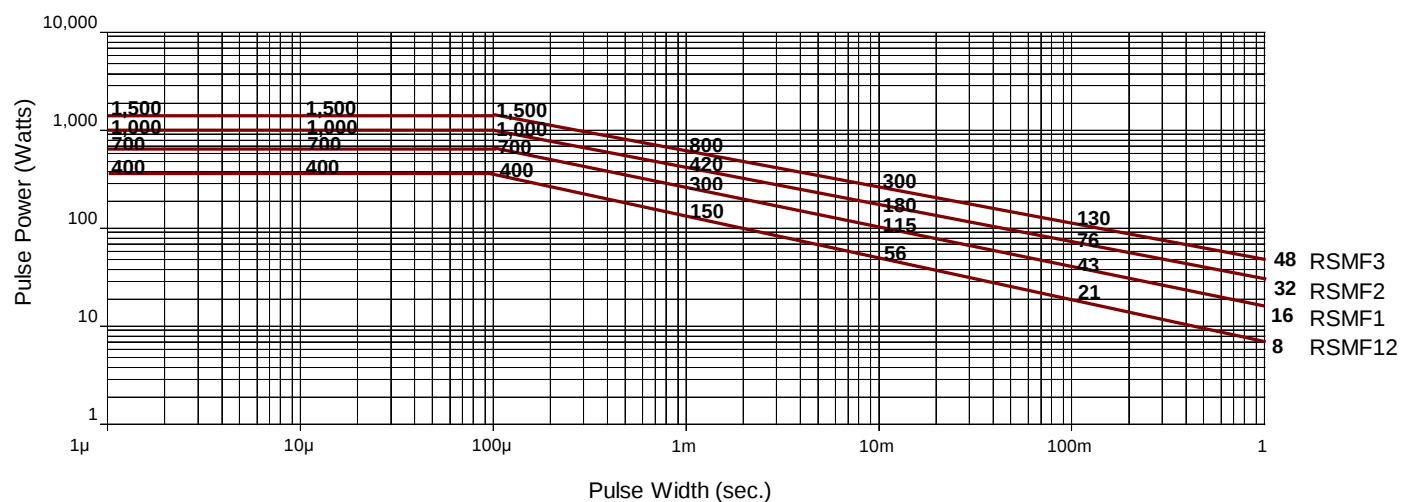
**Power Derating Curve:**



Pulse Limiting Power (One Pulse) / RSMF Series  $\leq 5\Omega$



Pulse Limiting Power (One Pulse) / RSMF Series  $\geq 5\Omega$



## 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 |     |       | Packaging |               |                             |          | Resistance Value                                                                                                                               |
|----------------|-------------|------|-------|-----------|-----|-------|-----------|---------------|-----------------------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------|
| RSF            | Metal Oxide | 12   | 0.5W  | Code      | Tol | Value | Code      | Description   | Size                        | Quantity | 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   | T         | Tape and Reel | RSMF12                      | 5,000    |                                                                                                                                                |
| PRSF(1)        | Panasert    | 2    | 2W    | G         | 2%  | E24   |           |               | RSF12, RSF1<br>RSMF1, RSMF2 | 2,500    |                                                                                                                                                |
|                |             | 3    | 3W    | J         | 5%  |       |           |               | RSF2, RSMF3<br>RSF3, RSMF5  | 1,000    |                                                                                                                                                |
|                |             | 5    | 5W    |           |     |       |           |               | RSF5                        | 500      |                                                                                                                                                |
|                |             |      |       |           |     |       | A         | Ammo          | RSMF12                      | 5,000    |                                                                                                                                                |
|                |             |      |       |           |     |       |           |               | RSF12; RSMF1                | 2,000    |                                                                                                                                                |
|                |             |      |       |           |     |       |           |               | RSF1, RSF2,<br>RSMF2, RSMF3 | 1,000    |                                                                                                                                                |
|                |             |      |       |           |     |       |           |               | RSF3, RSF5, RSMF5           | 500      |                                                                                                                                                |
|                |             |      |       |           |     |       | B         | Bulk          | All Sizes                   | 1,000    |                                                                                                                                                |

(1) For packaging information see Radial Leaded 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      | 2%        | E24    | RSF12, RSMF1, RSF1,<br>RSMF2 | 2,500 |               |      |
| PRSF (1) | Panasert    | 2    | 2W      | 5%        | E24    | RSF2, RSMF3<br>RSF3, RSMF5   | 1,000 |               |      |
|          |             | 3    | 3W      |           |        | RSF5                         | 500   |               |      |
|          |             | 5    | 5W      |           |        | RSMF12                       | 5,000 | Ammo          | T    |
|          |             |      |         |           |        | RSF12, RSMF1                 | 2,000 |               |      |
|          |             |      |         |           |        | RSF1, RSF2,<br>RSMF2, RSMF3  | 1,000 |               |      |
|          |             |      |         |           |        | RSF3, RSF5, RSMF5            | 500   |               |      |
|          |             |      |         |           |        | All                          | 1,000 | Bulk          | A    |

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