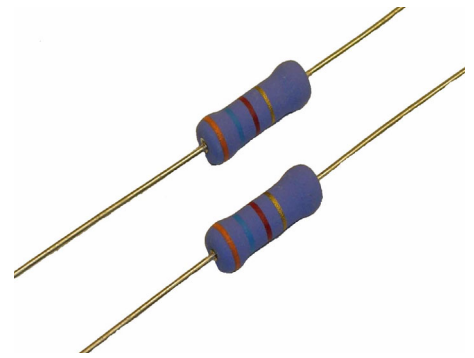


# RS Series — Metal Oxide Resistors

## Features

- Lower-cost alternative to Carbon Comps and Wirewounds
- Flameproof – meets overload test of UL #1412
- Meets solvent test of Mil Std 202, Method 215
- Cut and formed product is available on select sizes, contact factory for details
- RoHS compliant/ lead-free available
- RSM style an ideal choice when size constraints apply
- Operating temperature range: -55°C to +200°C
- Temperature coefficient of resistance of  $\pm 200$ ppm
- Coating meets UL 94V-0



## Electrical Specifications

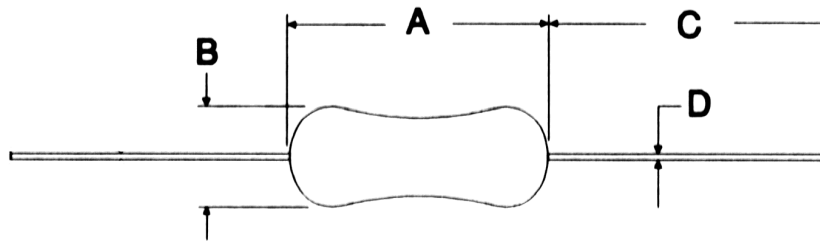
Type	Power Rating (Watts) @ 70°C	Maximum Working Voltage*	Maximum Pulse Voltage	Dielectric Withstanding Voltage	Resistance Temperature Coefficient	Ohmic Range and Tolerance		
						1%	2%	5%
RS 1/2	0.5W	250	400	400	$\pm 200$ ppm/°C	0.1 $\Omega$ – 75K	0.1 $\Omega$ – 75K	0.1 $\Omega$ – 75K
RS 1	1W	350	600	500	$\pm 200$ ppm/°C	0.1 $\Omega$ – 100K	0.1 $\Omega$ – 100K	0.1 $\Omega$ – 120K
RS 2	2W	350	600	500	$\pm 200$ ppm/°C	0.1 $\Omega$ – 120K	0.1 $\Omega$ – 120K	0.1 $\Omega$ – 150K
RS 3	3W	500	800	800	$\pm 200$ ppm/°C	10 $\Omega$ – 4.99K	1 $\Omega$ – 150K	1 $\Omega$ – 150K
RS 5	5W	750	1,000	800	$\pm 200$ ppm/°C	–	10 $\Omega$ – 10K	1 $\Omega$ – 180K
RSM 1/2	0.5W	250	400	400	$\pm 200$ ppm/°C	0.1 $\Omega$ – 46.4K	0.1 $\Omega$ – 47K	0.1 $\Omega$ – 47K
RSM 1	1W	350	600	500	$\pm 200$ ppm/°C	0.1 $\Omega$ – 75K	0.1 $\Omega$ – 75K	0.1 $\Omega$ – 75K
RSM 2	2W	350	600	500	$\pm 200$ ppm/°C	0.1 $\Omega$ – 100K	0.1 $\Omega$ – 100K	0.1 $\Omega$ – 100K
RSM 3	3W	500	800	500	$\pm 200$ ppm/°C	0.1 $\Omega$ – 118K	0.1 $\Omega$ – 120K	0.1 $\Omega$ – 120K
RSM 5	5W	750	1,000	750	$\pm 200$ ppm/°C	100 $\Omega$ – 4.99K	10 $\Omega$ – 20K	1 $\Omega$ – 150K

\* Lesser of  $\sqrt{PR}$  or maximum working voltage.

## How to Order

RS		1/2	0.47	5%	R			
SEI Type		Code	Nominal Resistance	Tolerance	Packaging			
Type	Description	Code	Tolerance	Values	Code	Description	SEI Types	Pkg Qty
RS	EIA Std	1/2	1%	E96	R	Tape	RSM 1/2	5,000
RSM	Mini	1	2%	E24	R	Tape	RS 1/2, RS 1, RSM 1, RSM 2	2,500
		2	5%	E24	R	Tape	RS 2, RSM 3	1,000
		3			R	Tape	RS 3, RSM 5	500
		5			T	Ammo	RS 1/2, RSM 1	2,000
					T	Ammo	RSM 1/2	5,000
					T	Ammo	RS 1, RSM 2	1,000
					T	Ammo	RS 2, RS 3, RSM 3, RSM 5	500
					A	Bulk	All, except RS 5	1,000
					A	Bulk	RS 5 (Bulk only)	250

# RS Series — Metal Oxide Resistors



## Mechanical Specifications

Type	A Body Length	B Body Diameter	C Lead Length (Bulk)	D Lead Diameter	Units
RS 1/2	0.35 ± 0.04	0.12 ± 0.02	1.10 ± 0.08	0.028 ± 0.002	inches
	9.0 ± 1.0	3.0 ± 0.5	28.0 ± 2.0	0.70 ± 0.05	mm
RS 1	0.43 ± 0.04	0.16 ± 0.02	1.10 ± 0.08	0.031 ± 0.002	inches
	11.0 ± 1.0	4.0 ± 0.5	28.0 ± 2.0	0.80 ± 0.05	mm
RS 2	0.59 ± 0.04	0.22 ± 0.04	1.38 ± 0.12	0.031 ± 0.002	inches
	15.0 ± 1.0	5.5 ± 1.0	35.0 ± 3.0	0.80 ± 0.05	mm
RS 3	0.98 ± 0.08	0.34 ± 0.06	1.38 ± 0.12	0.031 ± 0.002	inches
	25 ± 2.0	8.5 ± 1.5	35.0 ± 3.0	0.80 ± 0.05	mm
RS 5	1.61 ± 0.08	0.34 ± 0.06	1.38 ± 0.12	0.031 ± 0.002	inches
	41.0 ± 2.0	8.5 ± 1.5	35.0 ± 3.0	0.80 ± 0.05	mm
RSM 1/2	0.24 ± 0.02	0.09 ± 0.01	1.10 ± 0.08	0.024 ± 0.002	inches
	6.0 ± 0.5	2.3 ± 0.2	28.0 ± 2.0	0.60 ± 0.05	mm
RSM 1	0.35 ± 0.04	0.12 ± 0.02	1.10 ± 0.08	0.028 ± 0.002	inches
	9.0 ± 1.0	3.0 ± 0.5	28.0 ± 2.0	0.70 ± 0.05	mm
RSM 2	0.43 ± 0.04	0.16 ± 0.02	1.10 ± 0.08	0.031 ± 0.002	inches
	11.0 ± 1.0	4.0 ± 0.5	28.0 ± 2.0	0.80 ± 0.05	mm
RSM 3	0.59 ± 0.04	0.22 ± 0.04	1.38 ± 0.12	0.031 ± 0.002	inches
	15.0 ± 1.0	5.5 ± 1.0	35.0 ± 3.0	0.80 ± 0.05	mm
RSM 5	0.98 ± 0.08	0.34 ± 0.06	1.38 ± 0.12	0.031 ± 0.002	inches
	25.0 ± 2.0	8.5 ± 1.5	35.0 ± 3.0	0.80 ± 0.05	mm

## Performance Characteristics

Test	Test Results
Moisture Resistance	±1.5%
Thermal Shock	±1.0%
Load Life @70°C – 1,000 hrs.	±5.0%
Shock and Vibration	±1.0%
Resistance to Soldering Heat	±1.0%
Terminal Strength	±0.5%
Dielectric Withstanding Voltage	±0.001%/V
Short Time Overload	±0.75%
Low Temperature Operation	±0.5%
Operating Temperature Range	-55°C to +165°C

# CF Series — Carbon Film Resistors

## Features

- General purpose resistor ideal for commercial/industrial applications
- Flame retardant coatings standard, flameproof optional (contact factory)
- Pana-Sert available on selected sizes (contact factory)
- Auto sequencing/insertion compatible
- CFM (mini) an ideal choice when size constraints apply
- Cut and formed product is available on select sizes, contact factory for details
- RoHS compliant/ lead-free

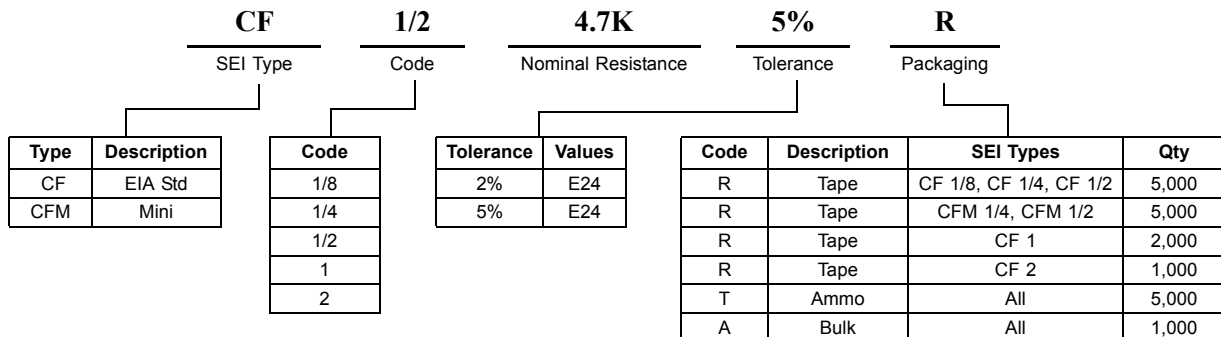


## Electrical Specifications

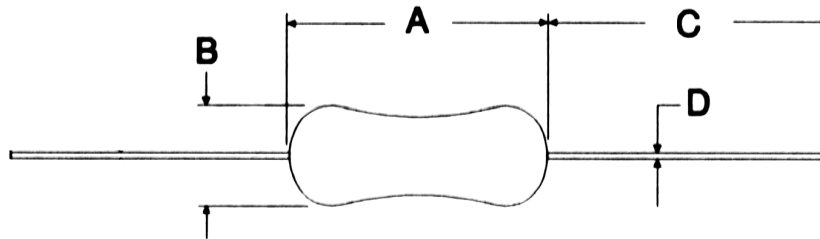
Type	Power Rating (Watts) @ 70°C	Maximum Working Voltage*	Maximum Pulse Voltage	Dielectric Withstanding Voltage	Ohmic Range and Tolerance	
					2%	5%
CF 1/8	0.125W	250	500	300	10Ω – 4.7M	1Ω – 22M
CF 1/4	0.25W	350	600	500	1Ω – 4.7M	1Ω – 22M
CF 1/2	0.5W	350	700	700	10Ω – 4.7M	1Ω – 22M
CF 1	1W	500	1,000	1,000	1Ω – 10M	1Ω – 22M
CF 2	2W	500	1,000	1,000	10Ω – 1M	1Ω – 22M
CFM 1/4	0.25W	250	500	500	10Ω – 1M	1Ω – 22M
CFM 1/2	0.5W	250	500	500	10Ω – 4.7M	1Ω – 22M

\* Lesser of  $\sqrt{PR}$  or maximum working voltage.

## How to Order



# CF Series — Carbon Film Resistors



## Mechanical Specifications

Type	A Body Length	B Body Diameter	C Lead Length (Bulk)	D Lead Diameter	Units
CF 1/8	0.13 + 0.01/-0 3.2 + 0.2/-0	0.07 ± 0.01 1.8 ± 0.2	1.10 ± 0.12 28.0 ± 3.0	0.018 ± 0.002 0.45 ± 0.05	inches mm
CF 1/4	0.26 ± 0.02 6.5 ± 0.5	0.09 ± 0.01 2.3 ± 0.2	1.10 ± 0.12 28.0 ± 3.0	0.022 ± 0.002 0.56 ± 0.05	inches mm
CF 1/2	0.33 ± 0.02 8.5 ± 0.50	0.11 ± 0.02 2.7 ± 0.5	1.10 ± 0.12 28.0 ± 3.0	0.024 ± 0.002 0.60 ± 0.05	inches mm
CF 1	0.43 ± 0.04 11.0 ± 1.0	0.18 ± 0.02 4.5 ± 0.5	1.18 ± 0.12 30.0 ± 3.0	0.031 ± 0.004 0.80 ± 0.1	inches mm
CF 2	0.59 ± 0.04 15.0 ± 1.0	0.20 ± 0.02 5.0 ± 0.5	1.18 ± 0.12 30.0 ± 3.0	0.031 ± 0.004 0.80 ± 0.1	inches mm
CFM 1/4	0.13 + 0.01/-0 3.2 + 0.2/-0	0.07 ± 0.01 1.8 ± 0.2	1.10 ± 0.12 28.0 ± 3.0	0.018 ± 0.002 0.45 ± 0.05	inches mm
CFM 1/2	0.26 ± 0.02 6.5 ± 0.5	0.09 ± 0.01 2.3 ± 0.2	1.10 ± 0.12 28.0 ± 3.0	0.022 ± 0.002 0.56 ± 0.05	inches mm

## Performance Characteristics

Test	Test Results
Moisture Resistance	<100K ±(3% +0.05Ω) ≥100K ±(5% +0.05Ω)
Thermal Shock	±0.5%
Load Life @70°C – 1,000 hrs.	<100K ±(2% +0.05Ω) ≥100K ±(3% +0.05Ω)
Shock and Vibration	±0.2%
Resistance to Soldering Heat	±1.0%
Terminal Strength	±0.5%
Short Time Overload	±1% Maximum
Voltage Coefficient	±25 ppm/V Maximum
Operating Temperature Range	-55°C to +155°C