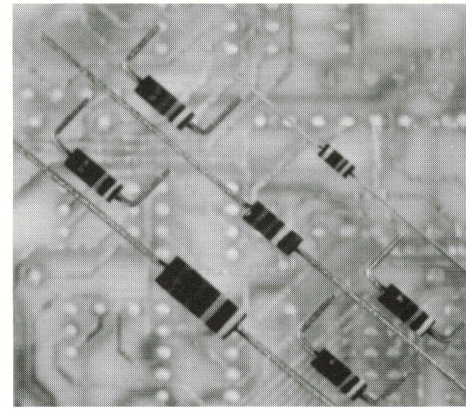


Carbon-composition resistors

Stackpole RC- $\frac{1}{8}$, RC- $\frac{1}{4}$ and RC- $\frac{1}{2}$ carbon-composition resistors are manufactured in an exclusive hot-molding process which affords the utmost in product uniformity. These resistors are available for commercial and industrial applications and meet the performance standards for EIA Fixed Composition Standard RS-172 as well as Military Specification MIL-R-11.

Resistance elements and outer insulating shells are molded of similar

materials into solid homogeneous structures that defy catastrophic failure and erratic resistance changes in severe environments. These resistors exhibit a low current noise as well as improved pulse-load handling.



GENERAL CHARACTERISTICS

PERFORMANCE CHARACTERISTICS (TESTED PER MIL-STD-202)

Power Rating	$\frac{1}{8}$ -WATT	$\frac{1}{4}$ -WATT	$\frac{1}{2}$ -WATT
Determined by load life tests 100% load at 70°C ambient	0.125 watt	0.25 watt	0.50 watt
Rated Continuous Working Voltage (RCWV)	$\sqrt{P \times R}$ Or 150 volts whichever is less	$\sqrt{P \times R}$ Or 250 volts whichever is less	$\sqrt{P \times R}$ Or 350 volts whichever is less
Maximum Ambient Temperature Resistors derated to zero load at this temperature	+130°C	+130°C	+130°C
Nominal Resistance Range	2.2 ohms to 1 megohm	2.2 ohms to 5.6 megohms	2.2 ohms to 22 megohms
Standard Resistance Tolerances	±5% ±10%	±5% ±10%	±5% ±10%

ENVIRONMENTAL CHARACTERISTICS

		$\frac{1}{8}$ -WATT	$\frac{1}{4}$ -WATT	$\frac{1}{2}$ -WATT
Moisture Resistance (Steady State) 240 hours at +40°C, 95% relative humidity	Typical resistance change Maximum resistance change	± 5% 1% to 7%	± 5% 1% to 7%	± 4% 1% to 6%
Thermal Shock 5 cycles at temperature of -55°C and ± 85°C	Typical resistance change Maximum resistance change	± 1% ± 2%	± 1% ± 2%	± 1% ± 2%
Load Life Operation for 1000 hours @ 70°C RCWV	Typical resistance change Maximum resistance change	-3% 2% to -5%	-3% 2% to -5%	-3% 2% to -5%
Low-Temperature Operation Stabilize units for 1 hour @ -65°C. Apply RCWV for 45 minutes. Return units to room temperature and measure resistance 24 hours later.	Typical resistance change Maximum resistance change	± 0.5% ± 2%	± 0.5% ± 2%	± 0.5% ± 2%

ELECTRICAL CHARACTERISTICS

		$\frac{1}{8}$ -WATT	$\frac{1}{4}$ -WATT	$\frac{1}{2}$ -WATT
Dielectric Withstanding Voltage	Atmospheric pressure Barometric pressure 3.4" Hg 115 millibars	300 volts 200 volts	500 volts 325 volts	700 volts 450 volts
Insulation Resistance	Minimum	10,000 meg	10,000 meg	10,000 meg
Voltage Coefficient of Resistance % resistance change per volt at 10% and 100% RCWV for values 1K to 22 megohms.	Minimum Maximum	-.005% -.025%	-.005% -.032%	-.005% -.032%
Short-Time Overload Apply 2.5 times RCWV at maximum indicated for 5 seconds	Maximum voltage Typical resistance change Maximum resistance change	200 volts ± 0.5% ± 2%	400 volts ± 0.5% ± 2%	700 volts ± 0.5% ± 2%

Lake-View Electronics Corp. 1054 Pioneer Rd. Grafton, WI Ph: 262-377-8250 Fax: 262-375-0109

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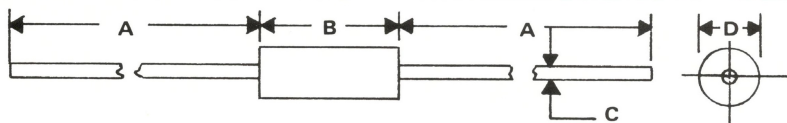
RESISTANCE TEMPERATURE CHARACTERISTICS

	Resistance Range	-55°C	±105°C
Maximum % Resistance Change from room temperature (+25°C) value	under 1K	+ 2.0 to + 5.0	- 4.0 to -2.0
	1K ohm to 9.1K ohms	+ 5.0 to + 9.0	- 5.0 to -3.0
	10K ohms to 91K ohms	+ 8.0 to +11.0	- 7.0 to -5.0
	100K ohms to 910K ohms	+10.0 to +14.0	- 9.0 to -7.0
	1 megohm to 10 megohms	+13.0 to +20.0	-14.0 to -9.0

PHYSICAL CHARACTERISTICS

		1/8 WATT	1/4 WATT	1/2 WATT
Terminal Strength Pull test 5 lbs. Twist test, three 360° rotations in alternating directions	Mechanical damage Maximum resistance change	no damage ± 1% 3# pull test 1.35 kg	no damage ± 1%	no damage ± 1%
Resistance To Soldering Heat Resistor leads immersed to within 1/8" to 3/16" from body in solder at 350°C for 3 sec.	Typical resistance change Maximum resistance change	± 1.5% ± 3.0% (250°C)	-0.5 to +2% ± 3%	-0.5% to +2% ± 3%
Vibration (High-Frequency) 20G peak, 10 to 2000 Hz, 6 hours each in two mutually perpendicular directions	Mechanical damage Maximum resistance change	no damage ± 1%	no damage ± 1%	no damage ± 1%
Shock (Specified Pulse) Sawtooth pulse 100G, 6 ms, 10 shocks each in two mutually perpendicular planes	Mechanical damage Maximum resistance change after vibration and shock	no damage ± 2%	no damage ± 2%	no damage ± 2%

MECHANICAL DIMENSIONS



STACKPOLE TYPE	Maximum Power Rating	Maximum Operating Voltage	DIMENSIONS			
			A	B	C	D
RC-1/8	1/8 watt	150 V	.984±.032 (25.0±0.8)	.145±.015 (3.68±.38)	.016±.002 (0.4±.05)	.062±.004 (1.57±0.1)
RC-1/4	1/4 watt	250V	1.102±.032 (28.0±0.8)	.248±.028 (6.3±0.7)	.024±.002 (0.6±.05)	.094±.004 (2.4±0.1)
RC-1/2	1/2 watt	350V	1.024±.032 (26.0±0.8)	.374±.032/-0.028 (9.5±0.8/-0.7)	.0275±.002 (0.7±.05)	.142±.008 (3.6±0.2)

CUT AND FORMED LEADS—DIMENSIONS

Rated Wattage	A Range			B Range			C Max	D		E		F	
	From	To	Tol.	From	To	Tol.			Tol.		Tol.		Tol.
1/4 Watt	.125 (3.17)	.580 (14.73)	±.031 (±0.78)	.400 (10.16)	1.100 (27.9)	±.031 (±0.78)	.150 (3.81)	.248 (6.30)	±.0275 (±0.69)	.094 (2.38)	±.004 (±0.10)	.024 (0.61)	±.002 (±.005)
1/2 Watt	.135 (3.43)	.540 (13.71)	±.031 (±0.78)	.560 (14.22)	1.024 (26.0)	±.031 (±0.78)	.150 (3.81)	.374 (9.49)	+.032/-0.028 (+0.81/-0.71)	.142 (3.60)	.008 (0.20)	.0275 (.069)	±.002 (±0.05)

inches (mm)

