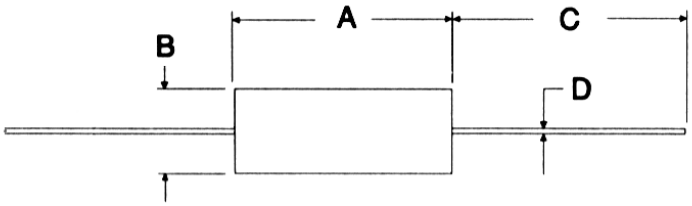
Features:

- Non-inductive design
- Molded body for package uniformity
- Ideal for pulse-load handling characteristics
- 1W now available
- RoHS compliant / lead-free

Electrical Specifications						
Type / Code	Power Rating (Watts) @ 70ºC	Maximum Continuous Working Voltage (1)	Maximum Pulse Voltage	Dielectric Withstanding Voltage	Ohmic Range (Ω) and Tolerance	
					5%	10%
RC 1/4	0.25W	250V	400V	500V	2.2 - 5.6M	1 - 5.6M
RC 1/2	0.5W	350V	700V	700V	1 - 22M	1 - 22M
RC 1	1W	500V	1,000V	1,000V	-	2.2 - 1M

(1) Lesser of √PR or maximum working voltage.



Mechanical Specifications					
Type / Code	A Body Length	B Body Diameter	C Lead Length (Bulk)	D Lead Diameter	Units
RC 1/4	0.248 ± 0.028 6.3 ± 0.7	0.094 ± 0.004 2.4 ± 0.1	1.18 ± 0.12 30.0 ± 3.0	0.0236 ± 0.002 0.6 ± 0.05	inches mm
RC 1/2	0.374 + 0.031/-0.028 9.5 + 0.8/-0.7	0.142 ± 0.008 3.6 ± 0.2	1.1 ± 0.12 28.0 ± 3.0	0.0275 + 0.0028/-0.002 0.7 + 0.07/-0.05	inches mm
RC 1	0.56 ± 0.03 14.3 ± 0.7	0.22 ± 0.01 5.7 ± 0.3	1.02 ± 0.12 26.0 ± 3.0	0.04 ± 0.002 0.9 ± 0.05	inches mm

Resistance Temperature Characteristics			
	Resistance Range	-55ºC	+105ºC
Maximum % resistance change from room temperature (+25ºC) value	Under 1K	+2 to + 5	-4 to -2
	1K to 9.1K	+5 to +9	-5 to -3
	10K to 91K	+8 to +11	-7 to -5
	100K to 910K	+10 to +14	-9 to -7
	1M to 10M	+13 to +20	-14 to -9

Performance Characteristics (JISC 5201 – 1:1998)		
Test	Test Results	Test Method
Voltage Proof	No breakdown or flashover	V-block method RC 1/4 100 VAC, 60 seconds RC 1/2 500 VAC, 60 seconds
Overload	±2% +0.05Ω No visible damage, legible markings	2.5 times the rated voltage or twice the limiting element voltage, whichever is less. Severe, 5 seconds.
Termination Strength	Tensile: ±2% +0.05Ω. No visible damage Bending: ±2% +0.05Ω. No visible damage Torsion: ±2% +0.05Ω. No visible damage	10N for 5 - 10 seconds 5N, twice 180ºC, two rotations
Solderability	In accordance with Clause 4.17.4.5	235ºC, 5 seconds
Resistance to Soldering Heat	±3% +0.05Ω No visible damage, legible markings	After immersion into flux, the immersion into solder shall be carried out 4mm from the body at 350ºC for 3.5 seconds
Temperature Shock	±2% +0.05Ω No visible damage.	5 cycles between -55ºC to 125ºC
Climatic Sequence	±10% +0.5Ω	Dry/Damp heat: 12 +12 hour cycle, first cycle Cold/Damp heat: 12 + 12 hour cycle, remaining cycle D.C. load
Damp Test, Steady State	±10% +0.5Ω Insulation resistance: R ≥100M ohm. No visible damage, legible markings	40ºC 95% relative humidity for 56 days, test a, b and c of Clause 4.24.2.1
Endurance @ 70ºC	±10% +0.5Ω Insulation resistance: R ≥1G ohm. No visible damage.	Rated voltage, 1.5 hours ON, 0.5 hours OFF at 70ºC, 1,000 hours
Endurance @ 125ºC	±10% +0.5Ω Insulation resistance: R ≥1G ohm. No visible damage.	125ºC, no load, 1,000 hours

Operating Temperature Range: -55ºC to +125ºC

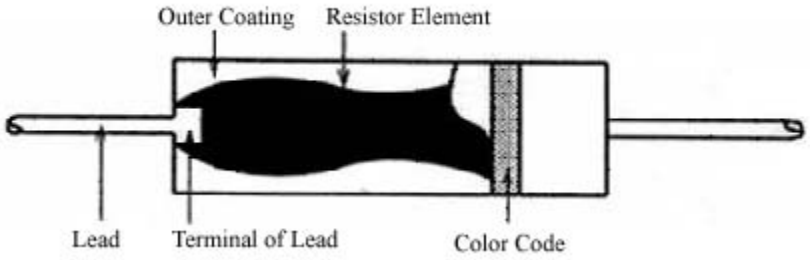
Reliability Test – Load Life in Moisture							
Criteria (%)		Load Ratio P/Pn (%)	Total Testing Time (Hrs)	Number of Fractures (pcs)	Failure Ratio		Average Lifetime (60% reliability level) (Hrs)
					λ̂	λ̂CL (60%)	
Δ R/R	±5	0	2.984×10^6	6	0.201	0.244	4.098×10^5
		20	2.990×10^6	4	0.134	0.176	5.682×10^5
		60	2.997×10^6	2	0.067	0.104	9.615×10^5
		100	2.992×10^6	3	0.1	0.139	7.194×10^5
		Total	1.196×10^7	15	0.125	0.138	7.209×10^5
	±10	Total	1.2×10^7	0	0.0055	0.0077	1.299×10^7

Technical Guide:

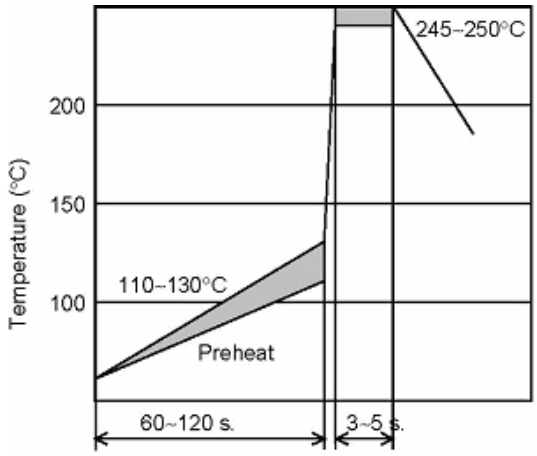
1. Storage Conditions:
   - Temperature: 5 to 35ºC (40 to 95ºF)
   - Humidity: 25 – 60% relative humidity
   - Term: Two years in factory poly-bag with desiccant. If parts are removed from the poly-bag, they should be used immediately or resealed in the bag.
   - Environment: Clean, dry environment, free of corrosive gases

2. Application precautions:
   - Lead forming: Forming is recommended at least 2mm of farther from the base of the lead
   - Soldering: Soldering is recommended at least 4mm or farther from the base of the lead

3. Washing:
   Carbon composition resistors are highly hygroscopic and changes in resistance value can occur if too much moisture is absorbed. For this reason it is recommended not to use water or water-soluble solvents to clean these components. Alcohol or hydrocarbon solvents are recommended for rinsing.



4. Soldering Recommendations:
   Note: The conditions shown below are for reference. Please perform a mounting evaluation to assure compatibility.
   a. Flow soldering (recommended profile for Sn and Sn/Pb solders)



   b. Soldering iron (recommended for Sn and Sn/Pb solders)
      - Temperature of soldering tip: 300ºC, duration: 10 sec. max.
      - Temperature of soldering tip: 350ºC, duration: 3 sec. max.

Other:
1. Evaluate and confirm the compatibility of your assembly process with this product.
2. Refer to the catalog, the product news, and the specifications for details on the RC series resistors.
3. If you have any questions, please contact our sales staff.

How to Order

SEI Type	Code	Nominal Resistance	Tolerance	Packaging
RC	1/2	5.6M	5%	R

Type	Description
RC	Carbon Comp

Code	Wattage
1/4	0.25W
1/2	0.5W
1	1W

Tolerance	Values
5%	E24
10%	

Type	Qty	Description	Code
1/4, 1/2	5,000	tape and reel	R
all	1,000	bulk	A

New part number format starting January 3rd, 2011:

How to Order

1	2	3	4	5	6	7	8	9	10
R	C	1	2	J	T	5	M	6	0

Product Series	
RC	Carbon Comp

Size	Power Rating
14	0.25W
12	0.5W
1	1W

Tolerance	
Code	Tol
J	5%
K	10%

Packaging			
Code	Description	Size	Quantity
T	tape and reel	14, 12	5,000
B	bulk	all sizes	1,000

Resistance Value
Four characters with the multiplier used as the decimal holder.
1 ohm = 1R00 10 Kohm = 10K0 1 Mohm = 1M00