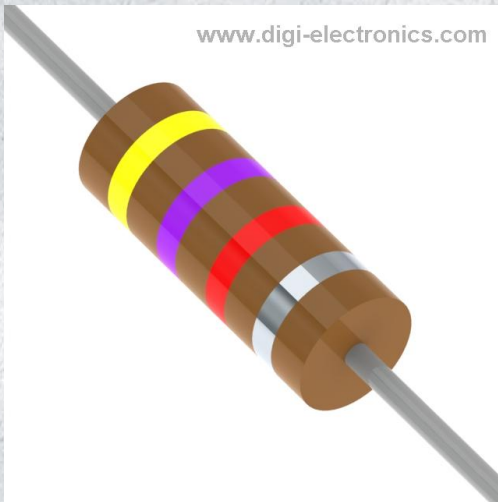


RC1KB4K70 Datasheet



<https://www.DiGi-Electronics.com>

DiGi Electronics Part Number	RC1KB4K70-DG
Manufacturer	Stackpole Electronics Inc
Manufacturer Product Number	RC1KB4K70
Description	RES 4.7K OHM 10% 1W AXIAL
Detailed Description	4.7 kOhms \pm 10% 1W Through Hole Resistor Axial Non-Inductive, Pulse Withstanding Carbon Composition

This model RC1KB4K70 is available at DiGi Electronics.

DiGi Electronics offers a global database of semiconductor and electronic component datasheets.

We welcome your inquiries regarding pricing, lead time, or other product-related questions.

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RFQ Email: Info@DiGi-Electronics.com

DiGi is a global authorized distributor of electronic components.

Purchase and inquiry

Manufacturer Product Number:

RC1KB4K70

Series:

RC

Resistance:

4.7 kOhms

Power (Watts):

1W

Features:

Non-Inductive, Pulse Withstanding

Operating Temperature:

-55°C ~ 125°C

Supplier Device Package:

Axial

Height - Seated (Max):

-

Failure Rate:

-

Manufacturer:

Stackpole Electronics Inc

Product Status:

Obsolete

Tolerance:

±10%

Composition:

Carbon Composition

Temperature Coefficient:

-

Package / Case:

Axial

Size / Dimension:

0.224" Dia x 0.563" L (5.70mm x 14.30mm)

Number of Terminations:

2

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8533.10.0060

Moisture Sensitivity Level (MSL):

Not Applicable

ECCN:

EAR99

RC Series

Carbon Composition Resistor

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Resistive Product Solutions

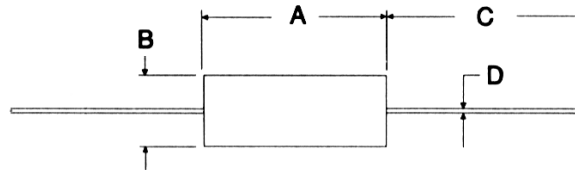
- Features:
- Non-inductive design
 - Molded body for package uniformity
 - Ideal for pulse-load handling characteristics
 - 1W now available
 - RoHS compliant / lead-free



Electrical Specifications

Type / Code	Power Rating (Watts) @ 70°C	Maximum Continuous Working Voltage (1)	Maximum Pulse Voltage	Dielectric Withstanding Voltage	Ohmic Range (Ω) and Tolerance	
					5%	10%
RC14	0.25W	250V	400V	500V	2.2 - 5.6M	1 - 5.6M
RC12	0.5W	350V	700V	700V	1 - 22M	1 - 22M
RC1	1W	500V	1,000V	1,000V	-	2.2 - 1M

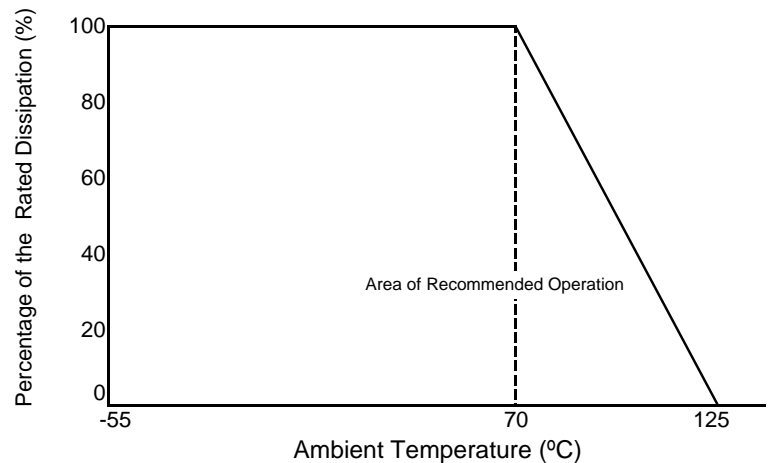
(1) Lesser of \sqrt{PR} or maximum working voltage.



Mechanical Specifications

Type / Code	A Body Length	B Body Diameter	C Lead Length (Bulk)	D Lead Diameter	Unit
RC14	0.248 ± 0.028	0.094 ± 0.004	1.181 ± 0.118	0.024 ± 0.002	inches
	6.30 ± 0.70	2.40 ± 0.10	30.00 ± 3.00	0.60 ± 0.05	mm
RC12	0.374 + 0.031 / -0.028	0.142 ± 0.008	1.102 ± 0.118	0.028 + 0.003 / -0.002	inches
	9.50 + 0.80 / -0.70	3.60 ± 0.20	28.00 ± 3.00	0.70 + 0.07 / -0.05	mm
RC1	0.563 ± 0.028	0.224 ± 0.012	1.024 ± 0.118	0.035 ± 0.002	inches
	14.30 ± 0.70	5.70 ± 0.30	26.00 ± 3.00	0.90 ± 0.05	mm

Power Derating Curve:



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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 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	$\pm 2\% + 0.05\Omega$ 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: $\pm 2\% + 0.05\Omega$. No visible damage Bending: $\pm 2\% + 0.05\Omega$. No visible damage Torsion: $\pm 2\% + 0.05\Omega$. No visible damage	10N for 5 - 10 seconds 5N, twice 180°C, two rotations
Solderability	In accordance with Clause 4.17.4.5	235°C, 5 seconds
Resistance to Soldering Heat	$\pm 3\% + 0.05\Omega$ No visible damage, legible markings	After immersion into flux, the immersion into solder shall be carried out 4mm from the body at 350°C for 3.5 seconds
Temperature Shock	$\pm 2\% + 0.05\Omega$ No visible damage.	5 cycles between -55°C to 125°C
Climatic Sequence	$\pm 10\% + 0.5\Omega$	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	$\pm 10\% + 0.5\Omega$ Insulation resistance: $R \geq 100M$ ohm. No visible damage, legible markings	40°C 95% relative humidity for 56 days, test a, b and c of Clause 4.24.2.1
Endurance @ 70°C	$\pm 10\% + 0.5\Omega$ Insulation resistance: $R \geq 1G$ ohm. No visible damage.	Rated voltage, 1.5 hours ON, 0.5 hours OFF at 70°C, 1,000 hours
Endurance @ 125°C	$\pm 10\% + 0.5\Omega$ Insulation resistance: $R \geq 1G$ ohm. No visible damage.	125°C, no load, 1,000 hours

Operating Temperature Range: -55°C to +125°C

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)	
				λ	λ_{CL} (60%)		
$\Delta R/R$	± 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

RC Series

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Technical Guide:

1. Storage Conditions:

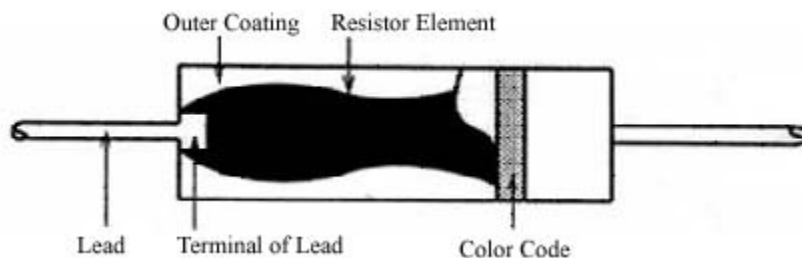
Temperature: 5 to 35°C (40 to 95°F)
 Humidity: 25 – 60% relative humidity
 Term: One year in poly-bag with desiccant. If parts are removed from the poly-bag, they should be used immediately or resealed in the bag.
 Environment: Clean, dry environment, free of corrosive gases

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:

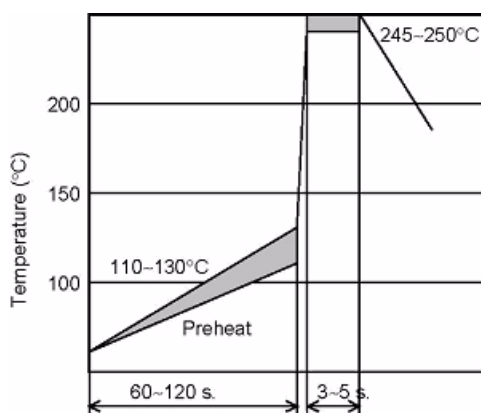
Carbon composition resistors are highly hygroscopic and changes in resistance value can occur if too much moisture is absorbed. For this reason it is recommended not to use water or water-soluble solvents to clean these components. Alcohol or hydrocarbon solvents are recommended for rinsing.



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: 300°C, duration: 10 sec. max.
 Temperature of soldering tip: 350°C, duration: 3 sec. max.

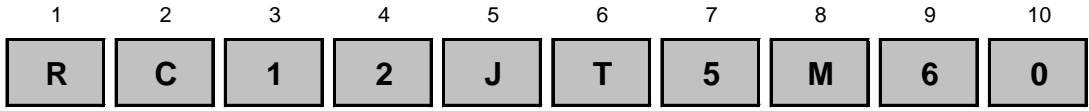
Other:

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.

RC Series
Carbon Composition Resistor

Stackpole Electronics, Inc.
Resistive Product Solutions

How to Order



Product Series		Size	Power Rating	Tolerance			Packaging				Resistance Value
RC	Carbon Comp	14	0.25W	Code	Tol	Value	Code	Description	Size	Quantity	Four characters with the multiplier used as the decimal holder. 1 ohm = 1R00 10 Kohm = 10K0 1 Mohm = 1M00
		12	0.5W	J	5%	E24	T	Tape and Reel	14, 12	5,000	
		1	1W	K	10%		B	Bulk	All Sizes	1,000	

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