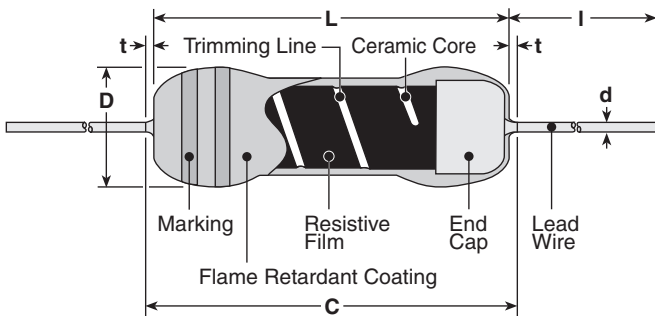




features

- Excellent anti-surge characteristics
- High resistance range
- RCR50+ and RCR60 (resistance range 1MΩ - 12MΩ) is recognized by UL1676 (File #E159326) CSA-C22.2 No. 1-M94
- RCR60 (resistance range 470kΩ - 56MΩ) approved to EN60065 safety requirements (BSI, VDE)
- High working voltage available in RCR60
- RuO₂ thick film resistive film
- Marking: Blue-gray body color with color-coded bands
- Products with lead-free terminations meet RoHS requirements

dimensions and construction



Type	Dimensions inches (mm)					
	L	C (max.)	t (max.)	D	d (nom.)	I
RCR16	.126±.008 (3.2±0.2)	.134 (3.4)	—	.067 ^{+0.008} _{-.004} (1.7 ^{+0.2} _{-.01})	.018 (0.45)	
RCR25	.248±.02 (6.3±0.5)	.28 (7.1)	—	.098±.02 (2.5±0.5)	.024 (0.6)	
RCR50 RCR50+	.374±.039 (9.5±1.0)	—	.118 (3.0)	.138±.016 (3.5±0.4)	.028 (0.7)	.787 Min. (20.0 Min.)
RCR60	.374 ^{+0.039} _{-.004} (9.5 ^{+1.0} _{-.02})					
NEW RCR75	.472±.039 (12±1.0)	—	.118 (3.0)	.157±.02 (4.0±0.5)	.031 (0.8)	
NEW RCR100	.610±.039 (15.5±1.0)	—	.118 (3.0)	.236 ^{+0.039} _{-.016} (6.0 ^{+1.0} _{-.04})	.031 (0.8)	

ordering information

New Part #	RCR	50	C	T52	A	105	J
Type	RCR RCR50+	Power Rating 16: 0.25W 25: 0.25W 50: 0.5W 60: 1W NEW 75: 2W NEW 100: 3W	Termination Material C: SnCu (Other termination styles available, contact factory for options)	Taping and Forming RCR16: T26, T52 RCR25: T26, T52 RCR50(+): T52 RCR60: T52 RCR75: T52 RCR100: T521, T631	Packaging A: Ammo R: Reel	Nominal Resistance 2 significant figures + 1 multiplier for ±5% 3 significant figures + 1 multiplier for ±1%	Tolerance F: ±1% J: ±5%

applications and ratings

Part Designation	Power Rating @ 70°C	Minimum Dielectric Withstanding Voltage	Resistance Range E-96 (F±1%)	Resistance Range E-24 (J±5%)	Absolute Maximum Working Voltage	Absolute Maximum Overload Voltage	Operating Temperature Range
RCR16	0.25W	300V	100kΩ - 1MΩ	100kΩ - 5.1MΩ	500V	1000V	-55°C to +155°C
RCR25		700V		—	100kΩ - 33MΩ	DC 1600V AC 1150V	
RCR50	3.3Ω - 910kΩ		2000V		2500V		
RCR50+						13MΩ - 33MΩ	
RCR60	1.0W		100kΩ - 56MΩ		4000V	5000V	
NEW RCR75	2.0W	100kΩ - 100MΩ	5000V				
NEW RCR100	3.0W	470kΩ - 33MΩ					

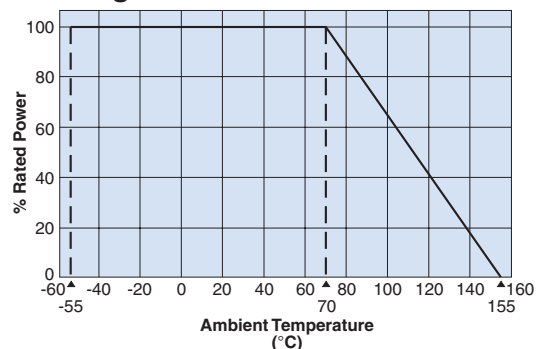
For further information on packaging, please refer to Appendix C.

Specifications given herein may be changed at any time without prior notice. Please confirm technical specifications before you order and/or use.

2/19/07

environmental applications

Derating Curve

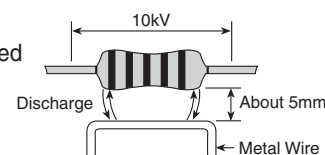


Notice of Surge Load

Surge withstanding load voltage for the resistors cannot be guarantee when the undermentioned 4 items get to a remarkable overload in comparison with the conditions shown by surge withstanding voltage in Anti-surge characteristics. Please contact KOA in advance if such a case is anticipated.

1. Peak voltage to be applied
2. Pulse width
3. Conditions of protecting insulation around the resistor
4. Situation of proximity conductivity object

For example: In the figure, a metal wire is placed less than 5mm away from the resistor body, there is such a case that causes an electric discharge by a surge load 10kV and then destroys the outer coating.



Performance Characteristics

Parameter	Requirement $\Delta R \pm(\% + 0.05\Omega)$		Typical	Test Method										
	Limit													
Resistance	Within regulated tolerance		—	Measuring points are 10mm \pm 1mm from the end cap										
T.C.R.	Type	T.C.R.	—	Room temperature/100°C up										
	RCR16	$\pm 200\text{ppm}/^\circ\text{C}$												
	RCR25	$\pm 350\text{ppm}/^\circ\text{C}$												
	RCR50 (+)	$\pm 500\text{ppm}/^\circ\text{C}$			3.3 Ω - 91k Ω									
		$\pm 350\text{ppm}/^\circ\text{C}$			100k Ω - 33M Ω									
	RCR60	$\pm 350\text{ppm}/^\circ\text{C}$			100k Ω - 56M Ω									
RCR75	$\pm 350\text{ppm}/^\circ\text{C}$	100k Ω - 100M Ω												
RCR100	$\pm 350\text{ppm}/^\circ\text{C}$	470k Ω - 33M Ω												
Overload	1		0.5	Rated voltage x 2.5 or maximum overload voltage for 5 seconds, whichever is less										
Resistance to Solder Heat	1		0.5	260°C \pm 5°C, 10 seconds \pm 1 second or 350°C \pm 10°C, 3.5 seconds \pm 0.5 seconds										
Terminal Strength	No mechanical damage		—	Twist 360°, 5 times										
Rapid Change of Temperature	1		0.5	-55°C (30 minutes)/+155°C (30 minutes), 5 cycles										
Moisture Resistance	5		2.5	40°C \pm 2°C, 90-95% RH, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle										
Endurance @ 70°C	5		2.5	70°C \pm 2°C, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle										
Resistance to Solvent	No visible damage to protective coating and marking		—	Isopropyl alcohol with ultrasonic washing, 2 minutes Power: 0.3W/cm ² , f: 28kHz, Temperature: 35°C \pm 5°C										
Surge Withstanding	10		2.5	Discharge test: 2kV - 10kV, 0.01 μF capacitor discharge pulse, 10 times (1 pulse/5 seconds maximum)										
				<table border="1"> <thead> <tr> <th>Type</th> <th>RCR16</th> <th>RCR25</th> <th>RCR50, RCR50+</th> <th>RCR60</th> </tr> </thead> <tbody> <tr> <td rowspan="5">Applied Voltage</td> <td rowspan="5">2kV</td> <td rowspan="5">3kV</td> <td>3.3Ω - 6.2Ω: 10kV</td> <td rowspan="5">10kV</td> </tr> <tr><td>6.8Ω - 10Ω: 7kV</td></tr> <tr><td>11Ω - 9.1kΩ: 5kV</td></tr> <tr><td>10kΩ - 91kΩ: 7kV</td></tr> <tr><td>100kΩ - 33MΩ: 10kV</td></tr> </tbody> </table>	Type	RCR16	RCR25	RCR50, RCR50+	RCR60	Applied Voltage	2kV	3kV	3.3 Ω - 6.2 Ω : 10kV	10kV
Type	RCR16	RCR25	RCR50, RCR50+	RCR60										
Applied Voltage	2kV	3kV	3.3 Ω - 6.2 Ω : 10kV	10kV										
			6.8 Ω - 10 Ω : 7kV											
			11 Ω - 9.1k Ω : 5kV											
			10k Ω - 91k Ω : 7kV											
			100k Ω - 33M Ω : 10kV											
EN60065 Test (RCR60 only)	20		—	Discharge test: 10kV, 1000pF capacitor discharge pulse, 50 times (1 pulse/5 seconds maximum)										