

# RESISTOR WIREWOUND CHASSIS MOUNT



## RWC SERIES



### KEY FEATURES

- Resistances from 0.005 to 250kOhms
- Tolerance to  $\pm 0.01\%$
- High Temperature:  $-55^{\circ}\text{C}$  to  $+275^{\circ}\text{C}$
- Low TCR:  $\pm 20\text{ppm}/^{\circ}\text{C}$
- Power Rating 5 to 300 Watts
- Excellent Pulse Handling
- Non-Inductive windings available
- Four Terminal Versions Available (Call Factory)

### APPLICATIONS

- Motor Control
- Braking Systems
- Welding
- X-Ray

### PRODUCT SUMMARY

PRODUCT SERIES (RWC)	RESISTANCE RANGE ( $\Omega$ ) <sup>1</sup>	POWER RATING (W @ 25°C)			DIELECTRIC STRENGTH	TEMPERATURE COEFFICIENT	TEMPERATURE RANGE
		FREE AIR	COMMERCIAL	MIL			
G1	0.01 to 22K	4.5	7.5 <sup>a</sup>	5 <sup>a</sup>	1500 VAC	<ul style="list-style-type: none"> <li>◆ <math>&gt;10\Omega</math>: <math>\pm 20\text{ppm}/^{\circ}\text{C}</math></li> <li>◆ <math>1\Omega</math> to <math>10\Omega</math>: <math>\pm 50\text{ppm}/^{\circ}\text{C}</math></li> <li>◆ <math>&lt;1\Omega</math>: Call Factory</li> </ul>	$-55^{\circ}\text{C}$ to $+275^{\circ}\text{C}$
G2	0.01 to 47K	7.5	12.5 <sup>a</sup>	10 <sup>a</sup>	1500 VAC		
G3	0.01 to 90K	12	25 <sup>b</sup>	20 <sup>b</sup>	2500 VAC		
G4	0.01 to 250K	20	50 <sup>c</sup>	30 <sup>c</sup>	3500 VAC		

**TOLERANCE:**  $\pm 0.01$  to  $\pm 10\%$  (1% Standard)

<sup>1</sup> For non-inductive windings, divide maximum resistance by 2

<sup>a</sup> Heatsink required: 0.040 [1.0] Aluminum Plate, 129 in<sup>2</sup> [832 cm<sup>2</sup>] or equiv.

<sup>b</sup> Heatsink required: 0.040 [1.0] Aluminum Plate, 167 in<sup>2</sup> [1077 cm<sup>2</sup>] or equiv.

<sup>c</sup> Heatsink required: 0.059 [1.5] Aluminum Plate, 291 in<sup>2</sup> [1877 cm<sup>2</sup>] or equiv.

<sup>d</sup> Heatsink required: 0.125 [3.2] Aluminum Plate, 294in<sup>2</sup> [1896cm<sup>2</sup>] or equiv.

<sup>e</sup> Heatsink required: 0.125 [3.2] Aluminum Plate, 895 in<sup>2</sup> [5780 cm<sup>2</sup>] or equiv.

### AVAILABLE OPTIONS (Consult Factory)

- Special Testing Requirements
- Special Pulse Requirements

### HOW TO ORDER

RWC	N	G1	U	003K8	F	S
RESISTOR WIRE-WOUND CHASSIS MOUNT	WINDINGS	PACKAGE CODE, WATTS (COMMERCIAL), RESISTANCE	TEMPERATURE COEFFICIENT OF RESISTANCE (TCR)	RESISTANCE	TOLERANCE	PACKING
	S = Standard N = Non-Inductive	G1, 7.5W, [0.01 to 22k] $\Omega$ G2, 12.5W, [0.01 to 47k] $\Omega$ G3, 25.0W, [0.01 to 90k] $\Omega$ G4, 50.0W, [0.01 to 250k] $\Omega$	U = $\pm 20\text{ppm}/^{\circ}\text{C}$ Q = $\pm 50\text{ppm}/^{\circ}\text{C}$ Z = Special	038R0 = 38 $\Omega$ 003K8 = 3.8K $\Omega$ 038K0 = 38.0K $\Omega$ 380K0 = 380.0K $\Omega$ 003M8 = 3.8M $\Omega$ Letter denotes decimal place. R = decimal., "K" 10 <sup>3</sup> , "M" 10 <sup>6</sup> Remaining 4 digits are significant or placeholders.	T = $\pm 0.01\%$ Q = $\pm 0.02\%$ A = $\pm 0.05\%$ B = $\pm 0.1\%$ F = $\pm 1.0\%$ J = $\pm 5.0\%$ K = $\pm 10.0\%$	S = Bulk

**For Tin/Lead coated leads, add "- Pb" to part number.**

Standard Termination Finish: Matte Tin (Sn)

Example P/N: RWCNG1U003K8FS is Resistor Wirewound Chassis Mount, Non-Inductive, 7.5W,  $\pm 20\text{ppm}/^{\circ}\text{C}$ , 3.8K $\Omega$ ,  $\pm 1.0\%$ , bulk

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### MECHANICAL CHARACTERISTICS



Package Code		G1	G2	G3	G4
Dimensions Inches [mm]	<b>A</b> (Tolerances) ±0.005 [±0.13 mm]	0.444 [11.28]	0.562 [14.27]	0.719 [18.26]	1.563 [39.70]
	<b>B</b> (Tolerances) ±0.005 [±0.13 mm]	0.490 [12.45]	0.625 [15.88]	0.781 [19.84]	0.844 [21.44]
	<b>C</b> (Tolerances) ±0.031 [±0.79 mm]	0.600 [15.24]	0.750 [19.05]	1.062 [26.97]	1.968 [49.99]
	<b>D</b> (Tolerances) ±0.062 [±1.57 mm]	1.125 [28.58]	1.320 [33.53]	1.870 [47.50]	2.760 [70.10]
	<b>E</b> (Tolerances) ±0.015 [±0.38 mm]	0.334 [8.48]	0.430 [10.92]	0.530 [13.46]	0.615 [15.62]
	<b>F</b> (Tolerances) ±0.015 [±0.38 mm]	0.646 [16.41]	0.800 [20.32]	1.080 [27.43]	1.140 [28.96]
	<b>G</b> (Tolerances) ±0.015 [±0.38 mm]	0.320 [8.13]	0.400 [10.16]	0.560 [14.22]	0.615 [15.62]
	<b>H</b> (Tolerances) ±0.010 [±0.25 mm]	0.065 [1.65]	0.075 [1.91]	0.085 [2.16]	0.085 [2.16]
	<b>J</b> (Tolerances) ±0.010 [±0.25 mm]	0.140 [3.56]	0.190 [4.83]	0.260 [6.60]	0.300 [7.62]
	<b>K</b> (Tolerances) ±0.010 [±0.25 mm]	0.078 [1.98]	0.093 [2.36]	0.172 [4.37]	0.196 [4.98]
	<b>L</b> (Tolerances) ±0.005 [±0.13 mm]	0.093 [2.36]	0.093 [2.36]	0.125 [3.18]	0.125 [3.18]
	<b>M</b> (Tolerances) ±0.015 [±0.38 mm]	0.078 [1.98]	0.102 [2.60]	0.125 [3.18]	0.125 [3.18]
	<b>N</b> (Tolerances) ±0.006 [±0.15 mm]	0.050 [1.27]	0.080 [2.03]	0.080 [2.03]	0.080 [2.03]
	<b>O</b> (Tolerances) ±0.062 [±1.57 mm]	0.266 [6.76]	0.312 [7.93]	0.438 [11.13]	0.438 [11.13]
	<b>P</b> (Tolerances) ±0.031 [±0.79 mm]	0.245 [6.22]	0.312 [7.92]	0.391 [9.93]	0.422 [10.72]
	<b>Q</b> (Tolerances) ±0.002 [±0.05 mm]	0.051 [1.30]	0.098 [2.49]	0.098 [2.49]	0.098 [2.49]
	<b>R</b> (Tolerances) ±0.031 [±0.79 mm]	0.085 [2.16]	0.160 [4.06]	0.185 [4.70]	0.185 [4.70]
<b>MIL-R-39009 / MIL-R-18546</b>		RER-60 / RE-60	RER-65 / RE-65	RER-70 / RE-70	RER-75 / RE-75



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## ENVIRONMENTAL PERFORMANCE

Environmental Performance (MIL-STD 202)	$\Delta R$
Vibration	$\pm 0.1 \% + 0.05 \Omega$
Load Life	$\pm 1\% + 0.05 \Omega$
Moisture Resistance	$\pm 0.2 \% + 0.05 \Omega$
Dielectric	$\pm 0.2 \% + 0.05 \Omega$
Storage	$\pm 0.2 \% + 0.05 \Omega$
Shock	$\pm 0.1 \% + 0.05 \Omega$
Thermal Shock	$\pm 0.2 \% + 0.05 \Omega$
5X Overload (5s)	$\pm 0.2 \% + 0.05 \Omega$

### CONSTRUCTION NOTES:

- ◆ Centerless ground ceramic core
- ◆ Tinned copper or copperweld leads
- ◆ All welded terminations
- ◆ High Temperature epoxy molding compound
- ◆ Anodized aluminum housing

Moisture Sensitivity Level: MSL-1



This datasheet is subject to change without notice.



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