

RESISTOR WIREWOUND CHASSIS MOUNT

RWC SERIES



KEY FEATURES

- Resistances from 0.005 to 250kOhms
- Tolerance to $\pm 0.01\%$
- High Temperature: -55°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 (Ω) ¹ | POWER RATING (W @ 25°C) | | | DIELECTRIC STRENGTH | TEMPERATURE COEFFICIENT | TEMPERATURE RANGE |
|----------------------|--|-------------------------|-------------------|-----------------|---------------------|--|---|
| | | FREE AIR | COMMERCIAL | MIL | | | |
| G1 | 0.01 to 22K | 4.5 | 7.5 ^a | 5 ^a | 1500 VAC | <ul style="list-style-type: none"> ◆ $>10\Omega$: $\pm 20\text{ppm}/^{\circ}\text{C}$ ◆ 1Ω to 10Ω: $\pm 50\text{ppm}/^{\circ}\text{C}$ ◆ $<1\Omega$: Call Factory | -55°C to $+275^{\circ}\text{C}$ |
| G2 | 0.01 to 47K | 7.5 | 12.5 ^a | 10 ^a | 1500 VAC | | |
| G3 | 0.01 to 90K | 12 | 25 ^b | 20 ^b | 2500 VAC | | |
| G4 | 0.01 to 250K | 20 | 50 ^c | 30 ^c | 3500 VAC | | |

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

- ¹ For non-inductive windings, divide maximum resistance by 2
- ^a Heatsink required: 0.040 [1.0] Aluminum Plate, 129 in² [832 cm²] or equiv.
- ^b Heatsink required: 0.040 [1.0] Aluminum Plate, 167 in² [1077 cm²] or equiv.
- ^c Heatsink required: 0.059 [1.5] Aluminum Plate, 291 in² [1877 cm²] or equiv.
- ^d Heatsink required: 0.125 [3.2] Aluminum Plate, 294in² [1896cm²] or equiv.
- ^e Heatsink required: 0.125 [3.2] Aluminum Plate, 895 in² [5780 cm²] 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] Ω G2, 12.5W, [0.01 to 47k] Ω G3, 25.0W, [0.01 to 90k] Ω G4, 50.0W, [0.01 to 250k] Ω | U = $\pm 20\text{ppm}/^{\circ}\text{C}$ Q = $\pm 50\text{ppm}/^{\circ}\text{C}$ Z = Special | 038R0 = 38 Ω 003K8 = 3.8K Ω 038K0 = 38.0K Ω 380K0 = 380.0K Ω 003M8 = 3.8M Ω Letter denotes decimal place. R = decimal., "K" 10 ³ , "M" 10 ⁶ 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 Ω , $\pm 1.0\%$, bulk



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MECHANICAL CHARACTERISTICS



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

