

RESISTOR WIREWOUND HIGH POWER RATING

RWH SERIES



KEY FEATURES

- Excellent Pulse Handling
- Resistance Tolerances to $\pm 0.01\%$
- Resistance from 0.02 to 260kOhms
- MIL-R-26 / MIL-R-39007 Power Ratings
- Low TCR: $\pm 20\text{ppm}/^\circ\text{C}$ Standard
- Non-Inductive Windings available

APPLICATIONS

- HDVC Systems
- Braking Systems
- Power Supplies
- Fluid Heater

PRODUCT SUMMARY

| PRODUCT SERIES (RWH) | POWER RATING (W) | DIELECTRIC STRENGTH | TOLERANCE | TEMPERATURE COEFFICIENT | TEMPERATURE RANGE |
|----------------------|------------------|---|---|---|---|
| Miniature Axial | 1 to 15 | 500 VAC: E01, E02, E03, E04, E05, E06 | $\pm 0.01\%$ to $\pm 10\%$ (1% Standard) | <ul style="list-style-type: none"> • $>10\Omega : \pm 20\text{ppm}/^\circ\text{C}$ • 1Ω to $10\Omega : \pm 50\text{ppm}/^\circ\text{C}$ • $<1\Omega$: Call Factory | -55°C to + 250°C |
| Axial | 0.1 to 15 | 500 VAC: F01, F02, F03, F04, F05, F06, F07 | | | <p>Characteristic U: -55°C to + 275°C</p> <p>Characteristic V: -55°C to + 350°C</p> |

HOW TO ORDER

| RWH | S | E02 | T | U | 003K8 | F | S |
|-------------------------------|-----------------------------------|---|---|---|---|---|-----------------------------|
| RESISTOR WIREWOUND HIGH POWER | WINDINGS | PACKAGE CODE, WATTS, RESISTANCE | OPERATING TEMPERATURE | TEMPERATURE COEFFICIENT OF RESISTANCE (TCR) | RESISTANCE | TOLERANCE | PACKING |
| | S = Standard N = Non-Inductive | <p>Miniature Axial E01, 1.0W, 33Vmax E02, 1.0W, 33Vmax</p> <p>Axial F01, 0.1W, 8.5Vmax F02, 0.4W, 20Vmax</p> <p>See Table</p> | T = -55°C to +250°C U = -55°C to +275°C V = -55°C to +350°C | U = $\pm 20\text{ppm}/^\circ\text{C}$ Q = $\pm 50\text{ppm}/^\circ\text{C}$ Z = Special | <p>0R038 = 0.038Ω 003K8 = 3.8KΩ 038K0 = 38.0KΩ 380K0 = 380.0KΩ 003M8 = 3.8MΩ</p> <p>Letter denotes decimal place. R = decimal, "K" 10^3, "M" 10^6 Remaining 4 digits are significant or placeholders.</p> | 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 T = Tape & Reel |

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

Standard Termination Finish: Matte Tin (Sn)

Example P/N: RWHSE02TU003K8FS is Resistor Wirewound High Power, Standard, 1.0W, 33V, -55°C to +250°C, $\pm 20\text{ppm}/^\circ\text{C}$, 3.8K Ω , $\pm 1.0\%$, bulk

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MINIATURE AXIAL



| Package Code | E01 | E02 | E03 | E04 | E05 | E06 | E07 | E08 | E09 | |
|--|---|-----------------|-----------------|-----------------|-----------------|------------------|------------------|-----------------|------------------|------------------|
| Max Resistance (Ω) ¹ | 3.4k | 3.4k | 7.5k | 7.5k | 10k | 10k | 12.5k | 25k | 32k | |
| Max Working Voltage (V) | 33 | 33 | 42 | 42 | 80 | 80 | 135 | 162 | 194 | |
| Power Rating (W) | 1 | 1 | 1.5 | 1.5 | 2 | 2 | 3 | 4 | 5 | |
| Dimensions Inches [mm] | A $\pm 0.062''$ [$\pm 1.57\text{mm}$] | 0.250 [6.35] | 0.250 [6.35] | 0.312 [7.92] | 0.312 [7.92] | 0.406 [10.31] | 0.406 [10.31] | 0.350 [8.89] | 0.560 [14.22] | 0.500 [12.70] |
| | B $\pm 0.031''$ [$\pm 0.79\text{mm}$] | 0.085 [2.16] | 0.085 [2.16] | 0.078 [1.98] | 0.078 [1.98] | 0.094 [2.39] | 0.094 [2.39] | 0.156 [3.96] | 0.187 [4.75] | 0.218 [5.54] |
| | C ² $\pm 0.002''$ [$\pm 0.05\text{mm}$] | 0.020 [0.51] | 0.025 [0.64] | 0.020 [0.51] | 0.025 [0.64] | 0.025 [0.64] | 0.020 [0.51] | 0.032 [0.81] | 0.032 [0.81] | 0.040 [1.02] |
| MIL-R-26 / MIL-R-39007 | RW-81 RWR-81 | RW-81 RWR-81 | RWR-82 | RWR-82 | RW-80 RWR-80 | RW-80 RWR-80 | | | | |

| Package Code | E10 | E11 | E12 | E13 | |
|--|---|------------------|------------------|------------------|------------------|
| Max Resistance (Ω) ¹ | 50k | 95k | 150k | 260k | |
| Max Working Voltage (V) | 258 | 425 | 607 | 1050 | |
| Power Rating (W) | 6 | 7 | 10 | 15 | |
| Dimensions Inches [mm] | A $\pm 0.062''$ [$\pm 1.57\text{mm}$] | 0.625 [15.88] | 0.875 [22.23] | 1.220 [30.99] | 1.780 [45.21] |
| | B $\pm 0.031''$ [$\pm 0.79\text{mm}$] | 0.250 [6.35] | 0.312 [7.92] | 0.312 [7.92] | 0.375 [9.53] |
| | C ² $\pm 0.002''$ [$\pm 0.05\text{mm}$] | 0.040 [1.02] | 0.040 [1.02] | 0.040 [1.02] | 0.040 [1.02] |
| MIL-R-26 / MIL-R-39007 | | RW-84 | | | |



¹ For non-inductive windings / divide maximum resistance by 2

² Lead Diameter:

18 AWG = 0.040" / 20 AWG = 0.032" / 22 AWG = 0.025" / 24 AWG = 0.020"

RESISTOR WIREWOUND HIGH POWER RATING

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AXIAL



| Package Code | | F01 | F02 | F03 | F04 | F05 | F06 | F07 | F08 | F09 | F10 |
|--|--|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|------------------|-----------------|------------------|------------------|
| Max Resistance (Ω) ¹ | | 500 | 2.5k | 2.5k | 7.5k | 7.5k | 10k | 10k | 12.5k | 22k | 22k |
| Max Working Voltage (V) | | 8.5 | 20 | 20 | 29 | 29 | 52 | 52 | 60 | 130 | 140 |
| Power Rating (W) | U | 0.1 | 0.4 | 0.4 | 0.75 | 0.75 | 1.0 | 1.0 | 1.5 | 2.5 | 3.0 |
| | V | 0.25 | 0.5 | 0.5 | 0.9 | 0.9 | 1.5 | 1.5 | 2.0 | 3.0 | 3.75 |
| Dimensions Inches [mm] | A $\pm 0.062"$ [± 1.57 mm] | 0.150 [3.81] | 0.250 [6.35] | 0.250 [6.35] | 0.330 [8.38] | 0.330 [8.38] | 0.406 [10.31] | 0.406 [10.31] | 0.350 [8.89] | 0.500 [12.70] | 0.560 [14.22] |
| | B $\pm 0.031"$ [± 0.79 mm] | 0.078 [1.98] | 0.094 [2.39] | 0.094 [2.39] | 0.094 [2.39] | 0.094 [2.39] | 0.094 [2.39] | 0.094 [2.39] | 0.156 [3.96] | 0.187 [4.75] | 0.187 [4.75] |
| | C ² $\pm 0.002"$ [± 0.05 mm] | 0.018 [0.45] | 0.020 [0.51] | 0.025 [0.64] | 0.020 [0.51] | 0.025 [0.64] | 0.020 [0.51] | 0.025 [0.64] | 0.032 [0.81] | 0.032 [0.81] | 0.032 [0.81] |
| MIL-R-26 / MIL-R-39007 | | | | | | | RW-70 | RW-70 | | RW-69 | RW-79 |

| Package Code | | F11 | F12 | F13 | F14 | F15 | F16 | F17 | F18 | F19 | F20 |
|--|--|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Max Resistance (Ω) ¹ | | 40k | 40k | 30k | 45k | 45k | 91k | 65k | 95k | 150k | 100k |
| Max Working Voltage (V) | | 140 | 140 | 140 | 210 | 210 | 360 | 390 | 504 | 650 | 590 |
| Power Rating (W) | U | 3.0 | 3.0 | 3.0 | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | 7.0 | 7.0 |
| | V | 4.0 | 4.0 | 3.5 | 5.5 | 5.5 | 6.5 | 6.5 | 6.5 | 9.0 | 9.0 |
| Dimensions Inches [mm] | A $\pm 0.062"$ [± 1.57 mm] | 0.500 [12.70] | 0.500 [12.70] | 0.500 [12.70] | 0.675 [17.15] | 0.675 [17.15] | 0.875 [22.23] | 0.970 [24.64] | 1.025 [26.04] | 1.375 [34.93] | 1.400 [35.56] |
| | B $\pm 0.031"$ [± 0.79 mm] | 0.250 [6.35] | 0.250 [6.35] | 0.200 [5.08] | 0.270 [6.68] | 0.270 [6.68] | 0.312 [7.92] | 0.250 [6.35] | 0.312 [7.92] | 0.375 [9.52] | 0.312 [7.92] |
| | C ² $\pm 0.002"$ [± 0.05 mm] | 0.040 [1.02] | 0.032 [0.81] | 0.032 [0.81] | 0.040 [1.02] | 0.032 [0.81] | 0.040 [1.02] | 0.032 [0.81] | 0.040 [1.02] | 0.040 [1.02] | 0.032 [0.81] |
| MIL-R-26 / MIL-R-39007 | | | | | | | RW-74 | | RW-67 | | |

| Package Code | | F21 | F22 | F23 |
|--|--|------------------|------------------|------------------|
| Max Resistance (Ω) ¹ | | 154k | 260k | 320k |
| Max Working Voltage (V) | | 620 | 850 | 1500 |
| Power Rating (W) | U | 7.0 | 10 | 15 |
| | V | 9.0 | 13 | - |
| Dimensions Inches [mm] | A $\pm 0.062"$ [± 1.57 mm] | 1.200 [30.99] | 1.780 [45.21] | 1.810 [45.95] |
| | B $\pm 0.031"$ [± 0.79 mm] | 0.312 [7.92] | 0.375 [9.52] | 0.510 [12.95] |
| | C ² $\pm 0.002"$ [± 0.05 mm] | 0.040 [1.02] | 0.040 [1.02] | 0.050 [1.27] |
| MIL-R-26 / MIL-R-39007 | | | RW-78 | |

- For non-inductive windings / divide maximum resistance by 2
- Lead Diameter:
18 AWG = 0.040" / 20 AWG = 0.032" / 22 AWG = 0.025" /
24 AWG = 0.020" / 25 AWG = 0.018"



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ENVIRONMENTAL PERFORMANCE

| Environmental Performance (MIL-STD 202) | ΔR | | |
|--|--|---------------------------|---------------------------|
| | Miniature Axial | Axial - Characteristic U | Axial - Characteristic V |
| Vibration | $\pm 0.1\% + 0.05 \Omega$ | $\pm 0.1\% + 0.05 \Omega$ | $\pm 0.2\% + 0.05 \Omega$ |
| Load Life | To 1% Depending on Resistance Value and Size | $\pm 1\% + 0.05 \Omega$ | $\pm 3\% + 0.05 \Omega$ |
| Moisture Resistance | $\pm 0.2\% + 0.05 \Omega$ | $\pm 0.2\% + 0.05 \Omega$ | $\pm 2\% + 0.05 \Omega$ |
| Dielectric | $\pm 0.2\% + 0.05 \Omega$ | $\pm 0.2\% + 0.05 \Omega$ | $\pm 0.2\% + 0.05 \Omega$ |
| Storage | $\pm 0.2\% + 0.05 \Omega$ | $\pm 0.2\% + 0.05 \Omega$ | $\pm 2\% + 0.05 \Omega$ |
| Shock | $\pm 0.1\% + 0.05 \Omega$ | $\pm 0.1\% + 0.05 \Omega$ | $\pm 0.2\% + 0.05 \Omega$ |
| Thermal Shock | $\pm 0.2\% + 0.05 \Omega$ | $\pm 0.2\% + 0.05 \Omega$ | $\pm 2\% + 0.05 \Omega$ |
| 5X Overload (5s) | $\pm 0.2\% + 0.05 \Omega$ | $\pm 0.2\% + 0.05 \Omega$ | $\pm 2\% + 0.05 \Omega$ |

CONSTRUCTION NOTES:

- ♦ Centerless ground ceramic core
- ♦ Tinned copper or copperweld leads
- ♦ All welded terminations
- ♦ High Temperature / trivalent / inorganic silicone coating

PACKAGING INFORMATION

MINIATURE AXIAL: Bulk Only

AXIAL:

| Package Code | F01 | F02 | F03 | F04 | F05 | F06 | F07 | F08 | F09 | F10 | F11 | F12 | F13 | |
|-----------------|----------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Bulk | Bulk Only. No T&R | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | |
| 10" Reel | | 2000 | 2000 | 2000 | 2000 | 2000 | 2000 | 2000 | 500 | 500 | 500 | 500 | 500 | |
| 12" Reel | | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 3000 | 1500 | 1500 | 1000 | 1000 | 1000 |
| 14" Reel | | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 5000 | 3000 | 3000 | 1500 | 1500 | 1500 |

| Package Code | F14 | F15 | F16 | F17 | F18 | F19 | F20 | F21 | F22 |
|-----------------|------|------|------|------|------|------|------|------|------|
| Bulk | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 |
| 10" Reel | N/A | N/A | N/A | 500 | N/A | N/A | N/A | N/A | N/A |
| 12" Reel | 500 | 500 | 500 | 1000 | 500 | 500 | 500 | 500 | 500 |
| 14" Reel | 1000 | 1000 | 1000 | 1500 | 1000 | 750 | 750 | 750 | 750 |

Moisture Sensitivity Level: MSL-1

AVAILABLE OPTIONS (Consult Factory)

- Special Testing Requirements
- Special Pulse Requirements

This datasheet is subject to change without notice.





Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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