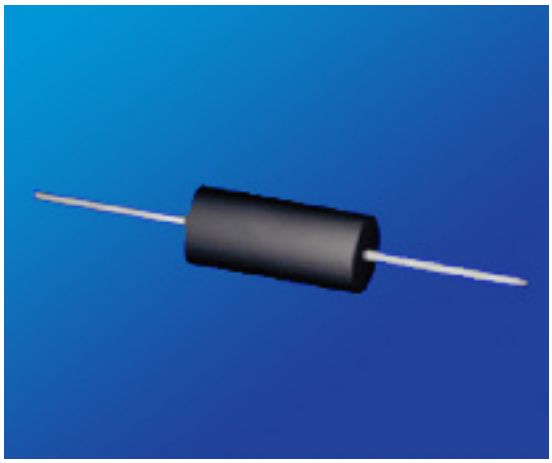
Resistor Wirewound High Power Rating
RWH Series



Key Features

- Excellent Pulse Handling
- Resistance Tolerances to ± 0.01%
- Resistance from 0.02 to 260kOhms
- MIL-R-26 / MIL-R-39007 Power Ratings
- Low TCR: ± 20ppm/ ºC 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 **1000 VAC:** All Others	± 0.01% to ± 10% (1% Standard)	◆ >10Ω : ± 20ppm/°C ◆ 1Ω to 10Ω : ± 50ppm/°C ◆ <1Ω : Call Factory	-55°C to + 250°C
Axial	0.1 to 15	**500 VAC:** F01, F02, F03, F04, F05, F06, F07 **1000 VAC:** All Others			**Characteristic U:** -55°C to + 275°C **Characteristic V:** -55°C to + 350°C

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	**Miniature Axial** E01, 1.0W, 33Vmax E02, 1.0W, 33Vmax **Axial** F01, 0.1W, 8.5Vmax F02, 0.4W, 20Vmax See Table	T = -55ºC to +250ºC U = -55ºC to +275ºC V = -55ºC to +350ºC	U = ± 20ppm/°C Q = ± 50ppm/°C Z = Special	0R038 = 0.038Ω 003K8 = 3.8KΩ 038K0 = 38.0KΩ 380K0 = 380.0KΩ 003M8 = 3.8MΩ Letter denotes decimal place. R = decimal.,"K" 10^3,"M" 10^6 Remaining 4 digits are significant or placeholders.	T= ± 0.01% Q= ± 0.02% A= ± 0.05% B= ± 0.1% F= ± 1.0% J= ± 5.0% K= ± 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, -55ºC to +250ºC, ±20ppm/ºC, 3.8KΩ, ±1.0%, bulk

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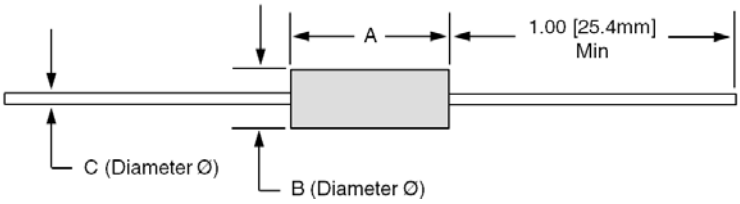
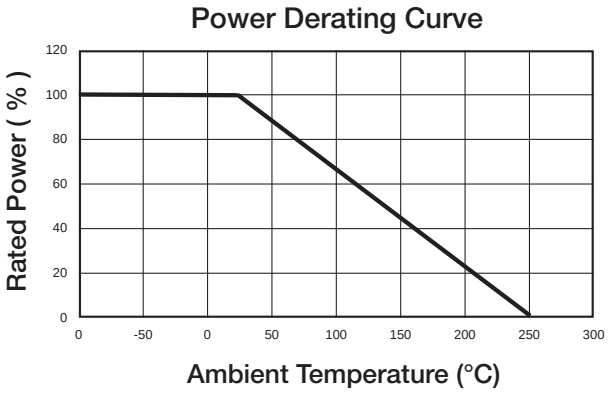
RWH Series

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 ±0.062" [±1.57mm]	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 ±0.031" [±0.79mm]	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] ±0.002" [±0.05mm]	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 ±0.062" [±1.57mm]	0.625 [15.88]	0.875 [22.23]	1.220 [30.99]	1.780 [45.21]
	B ±0.031" [±0.79mm]	0.250 [6.35]	0.312 [7.92]	0.312 [7.92]	0.375 [9.53]
	C [2] ±0.002" [±0.05mm]	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"

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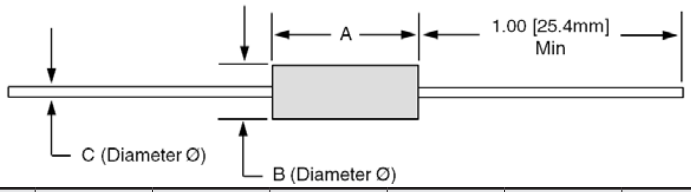
Axial



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 ±0.062" [±1.57mm]	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 ±0.031" [±0.79mm]	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] ±0.002" [±0.05mm]	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

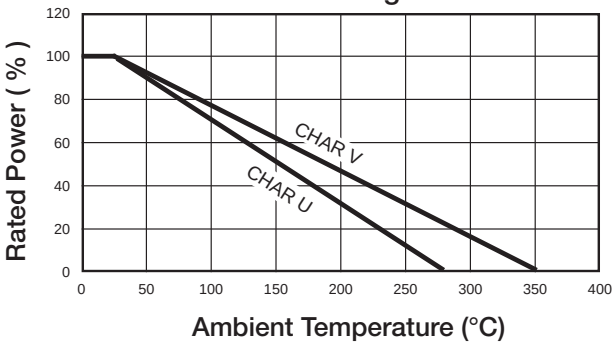
Package Code		F11	F12	F13	F14	F15	F16	F17	F18	F19	F20
Max Resistance (Ω) [1]		40k	40k	30k	45k	45k	91k	65k	95k	150k	100k
Max Working Voltage (V)		140	140	140	210	210	360	390	504	650	590
Power Rating (W)	U	3.0	3.0	3.0	4.0	4.0	5.0	5.0	5.0	7.0	7.0
	V	4.0	4.0	3.5	5.5	5.5	6.5	6.5	6.5	9.0	9.0
Dimensions Inches [mm]	A ±0.062" [±1.57mm]	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 ±0.031" [±0.79mm]	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] ±0.002" [±0.05mm]	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 ±0.062" [±1.57mm]	1.200 [30.99]	1.780 [45.21]	1.810 [45.95]
	B ±0.031" [±0.79mm]	0.312 [7.92]	0.375 [9.52]	0.510 [12.95]
	C [2] ±0.002" [±0.05mm]	0.040 [1.02]	0.040 [1.02]	0.050 [1.27]
MIL-R-26 / MIL-R-39007			RW-78	

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" / 25 AWG = 0.018"

Power Derating Curve



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Environmental Performance

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

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	1500	1500	1000	1000	1000
14" Reel		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.