

Features

- Formerly a Riedon™ product
- Resistances 0.02 to 320k Ω
- Resistance tolerances as low as $\pm 0.01\%$
- Power rating: 1 to 13 watts
- Excellent pulse handling
- Low TCR: ± 20 PPM/ $^{\circ}\text{C}$ standard

- Operating temperature range: -55°C to $+350^{\circ}\text{C}$ ("V" Rating)
- Designed to MIL-R-26 / MIL-R-39007 power ratings
- Silicone coated power resistor
- Non-inductive windings available
- RoHS compliant*

UT Series – Riedon™ High Temperature Power Resistors by Bourns

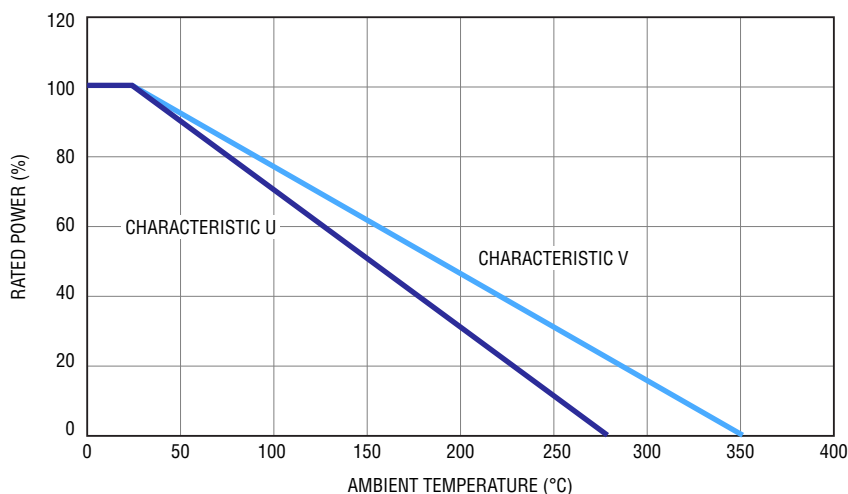
Specifications

| Specification | Value |
|-------------------------|--|
| Tolerances | $\pm 0.01\%$ to $\pm 10\%$ (1 % Standard) |
| Temperature Coefficient | $>10\ \Omega$: ± 20 PPM/ $^{\circ}\text{C}$ $1\ \Omega$ to $10\ \Omega$: ± 50 PPM/ $^{\circ}\text{C}$ $<1\ \Omega$: Other TCR values available. Contact Bourns. |
| Temperature Range | Characteristic U: -55°C to $+275^{\circ}\text{C}$ Characteristic V: -55°C to $+350^{\circ}\text{C}$ |
| Maximum Working Voltage | $\sqrt{P \cdot R}$ |
| Dielectric Strength | UT1 / UT1/2A / UT1/2 / UT1A: 500 VAC; All Others: 1000 VAC |
| Construction | Centerless ground ceramic core Matte tin over copper Flame resistant / high temperature / trivalent / inorganic Silicone coating All welded terminations |

Environmental Performance

| Specification (MIL-STD 202) | ΔR | |
|-----------------------------|----------------------------|----------------------------|
| | Characteristic U | Characteristic V |
| Dielectric | $\pm 0.2\% + 0.05\ \Omega$ | $\pm 0.2\% + 0.05\ \Omega$ |
| Load Life | $\pm 1\% + 0.05\ \Omega$ | $\pm 3\% + 0.05\ \Omega$ |
| Storage | $\pm 0.2\% + 0.05\ \Omega$ | $\pm 2\% + 0.05\ \Omega$ |
| Moisture Resistance | $\pm 0.2\% + 0.05\ \Omega$ | $\pm 2\% + 0.05\ \Omega$ |
| Thermal Shock | $\pm 0.2\% + 0.05\ \Omega$ | $\pm 2\% + 0.05\ \Omega$ |
| 5X Overload (5 s) | $\pm 0.2\% + 0.05\ \Omega$ | $\pm 2\% + 0.05\ \Omega$ |
| Shock | $\pm 0.1\% + 0.05\ \Omega$ | $\pm 0.2\% + 0.05\ \Omega$ |
| Vibration | $\pm 0.1\% + 0.05\ \Omega$ | $\pm 0.2\% + 0.05\ \Omega$ |

Power Derating Curves



Additional Information

Click these links for more information:



How To Order

UT 5 - 25R F 1

Model

UT (standard)
UTN (non-inductive)

Power Rating Code
(See Specifications and Dimensions table on page 2)

Resistance Code
For values $\leq 10\text{K}\ \Omega$,
"R" represents decimal point
(Example: 25R = 25 Ω)
For values $> 10\text{K}\ \Omega$,
"K" represents decimal point
(Example 1K5 = 1.5K Ω)

Tolerance
X** = $\pm 0.01\%$ D = $\pm 0.5\%$
W** = $\pm 0.02\%$ F = $\pm 1\%$
V** = $\pm 0.025\%$ G = $\pm 2\%$
U** = $\pm 0.05\%$ H = $\pm 3\%$
B = $\pm 0.1\%$ J = $\pm 5\%$
T = $\pm 0.2\%$ K = $\pm 10\%$
C = $\pm 0.25\%$

Internal Use

(Specific TCR values available upon request.)

**[Contact Bourns](#) for tolerances $< \pm 0.01\%$.

Note: Characteristic U is standard; [Contact Bourns](#) for Characteristic V.



WARNING
Cancer and Reproductive Harm
www.P65Warnings.ca.gov

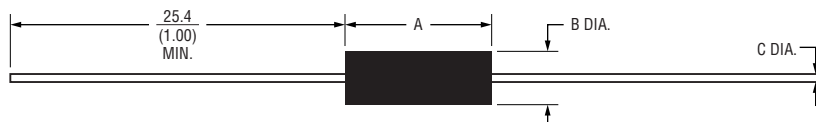
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Specifications and Dimensions



DIMENSIONS: $\frac{\text{MM}}{(\text{INCHES})}$

| Model & Power Rating Code | Power Rating (W) | | Max. Ohms ² (Ω) | Dimensions | | | Designed to Mil-R-26 / MIL-R-39007 |
|---------------------------|------------------|------|----------------------------|---|--|--|------------------------------------|
| | U | V | | A | B ³ | C ¹ | |
| UT1 | 0.1 | 0.25 | 500 | $\frac{3.8 \pm 1.6}{(.150 \pm .062)}$ | $\frac{2.0 \pm 0.8}{(.078 \pm .031)}$ | $\frac{0.46 \pm 0.05}{(.018 \pm .002)}$ | — |
| UT1/2A | 0.4 | 0.5 | 2.5k | $\frac{6.4 \pm 1.6}{(.250 \pm .062)}$ | $\frac{2.4 \pm 0.8}{(.094 \pm .031)}$ | $\frac{0.5 \pm 0.05}{(.020 \pm .002)}$ $\frac{0.6 \pm 0.05}{(.025 \pm .002)}$ | — |
| UT1/2 | 0.75 | 0.9 | 7.5k | $\frac{8.4 \pm 1.6}{(.330 \pm .062)}$ | $\frac{2.4 \pm 0.8}{(.094 \pm .031)}$ | | — |
| UT1A | 1.0 | 1.5 | 10k | $\frac{10.3 \pm 1.6}{(.406 \pm .062)}$ | $\frac{2.4 \pm 0.8}{(.094 \pm .031)}$ | | RW-70 |
| UT2 | 1.5 | 2.0 | 12.5k | $\frac{8.9 \pm 1.6}{(.350 \pm .062)}$ | $\frac{4.0 \pm 0.8}{(.156 \pm .031)}$ | $\frac{0.8 \pm 0.05}{(.032 \pm .002)}$ | — |
| UT2A | 2.5 | 3.0 | 22k | $\frac{12.7 \pm 1.6}{(.500 \pm .062)}$ | $\frac{4.7 \pm 0.8}{(.187 \pm .031)}$ | | RW-69 |
| UT2B | 3.0 | 3.75 | 22k | $\frac{14.2 \pm 1.6}{(.560 \pm .062)}$ | $\frac{4.7 \pm 0.8}{(.187 \pm .031)}$ | | RW-79 |
| UT2C | 3.0 | 4.0 | 40k | $\frac{12.7 \pm 1.6}{(.500 \pm .062)}$ | $\frac{6.4 \pm 0.8}{(.250 \pm .031)}$ | $\frac{1.0 \pm 0.05}{(.040 \pm .002)}$ $\frac{0.8 \pm 0.05}{(.032 \pm .002)}$ | — |
| UT2E | 3.0 | 3.5 | 30k | $\frac{12.7 \pm 1.6}{(.500 \pm .062)}$ | $\frac{5.1 \pm 0.8}{(.200 \pm .031)}$ | $\frac{0.8 \pm 0.05}{(.032 \pm .002)}$ | — |
| UT3 | 4.0 | 5.5 | 45k | $\frac{17.1 \pm 1.6}{(.675 \pm .062)}$ | $\frac{6.9 \pm 0.8}{(.270 \pm .031)}$ | $\frac{1.0 \pm 0.05}{(.040 \pm .002)}$ $\frac{0.8 \pm 0.05}{(.032 \pm .002)}$ | — |
| UT5 | 5.0 | 6.5 | 91k | $\frac{22.2 \pm 1.6}{(.875 \pm .062)}$ | $\frac{7.9 \pm 0.8}{(.312 \pm .031)}$ | $\frac{1.0 \pm 0.05}{(.040 \pm .002)}$ | RW-74 |
| UT5A | 5.0 | 6.5 | 65k | $\frac{24.6 \pm 1.6}{(.970 \pm .062)}$ | $\frac{5.2 \pm 0.8}{(.250 \pm .031)}$ | $\frac{0.8 \pm 0.05}{(.032 \pm .002)}$ | — |
| UT6 | 5.0 | 6.5 | 95k | $\frac{26.0 \pm 1.6}{(1.025 \pm .062)}$ | $\frac{7.9 \pm 0.8}{(.312 \pm .031)}$ | $\frac{1.0 \pm 0.05}{(.040 \pm .002)}$ | RW-67 |
| UT7A | 7.0 | 9.0 | 150k | $\frac{35.0 \pm 1.6}{(1.375 \pm .062)}$ | $\frac{9.5 \pm 0.8}{(.375 \pm .031)}$ | | — |
| UT7B | 7.0 | 9.0 | 100k | $\frac{35.6 \pm 1.6}{(1.400 \pm .062)}$ | $\frac{7.9 \pm 0.8}{(.312 \pm .031)}$ | $\frac{0.8 \pm 0.05}{(.032 \pm .002)}$ | — |
| UT7C | 7.0 | 9.0 | 154k | $\frac{31.0 \pm 1.6}{(1.220 \pm .062)}$ | $\frac{7.9 \pm 0.8}{(.312 \pm .031)}$ | $\frac{1.0 \pm 0.05}{(.040 \pm .002)}$ | — |
| UT10 | 10 | 13 | 260k | $\frac{45.2 \pm 1.6}{(1.780 \pm .062)}$ | $\frac{9.5 \pm 0.8}{(.375 \pm .031)}$ | | RW-78 |
| UT15 | 15 | — | 320k | $\frac{46.0 \pm 1.6}{(1.810 \pm .062)}$ | $\frac{13.0 \pm 0.8}{(.510 \pm .031)}$ | $\frac{1.5 \pm 0.05}{(.050 \pm .002)}$ | — |

Notes:

¹ Lead Diameter: 18 AWG = 0.040 " / 20 AWG = 0.032 " / 22 AWG = 0.025 " / 24 AWG = 0.020 " / 25 AWG = 0.018 ".

Where more than one lead is listed / the **bold** value is standard.

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

³ For non-inductive winding where R ≤ 0.10 ohms, tolerance is +1.6/-0.0 mm (+0.063/-0.00 ").

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Standard Package Quantities

| Model & Power Rating Code | Bulk | 10 " Reel | 12 " Reel | 14 " Reel |
|---------------------------|------|-----------|-----------|-----------|
| UT1 | 1000 | N/A | N/A | N/A |
| UT1/2A | | 2000 | 3000 | 5000 |
| UT1/2 | | | | |
| UT1A | | | | |
| UT2 | | | | |
| UT2A | | 500 | 1500 | 3000 |
| UT2B | | | 1000 | 1500 |
| UT2C | | | | |
| UT2E | | N/A | 500 | 1000 |
| UT3 | | | | |
| UT5 | | | | |
| UT5A | | 500 | 1000 | 1500 |
| UT6 | | N/A | 500 | 1000 |
| UT7A | | | | 750 |
| UT7B | | | | |
| UT7C | | | | |
| UT10 | | | | |

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