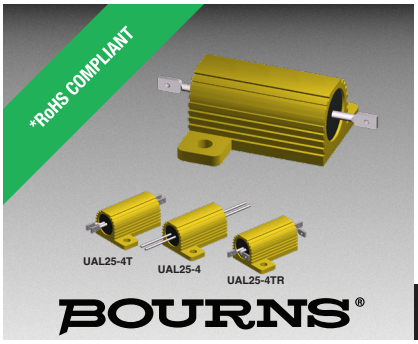


Features

- Formerly a Riedon™ product
- Resistance range from 0.01 to 250K Ω
- Resistance tolerances as low as ±0.01 %
- Power rating: 5 to 50 watts
- Excellent pulse handling
- Low TCR: ±20 PPM/°C standard
- Various terminal options available
- All-welded construction
- Operating Temperature Range: -55 °C to +275 °C
- Designed to MIL-R-39009 / MIL-R-18546 power ratings
- RoHS compliant*

UAL Series – Aluminum Housed Power Wirewound Resistors

Electrical Characteristics

Bourns Model Number	MIL-R-39009 MIL-R-18546 Style	Power Rating @ 25 °C (W)			Resistance Range (Ω)[1,2]
		Commercial	MIL	Free Air	
UAL5	RER-60 / RE-60	7.5[a]	5[a]	4.5	0.01 to 22 K
UAL10	RER-65 / RE-65	10[a]	10[a]	7.5	0.01 to 47 K
UAL25	RER-70 / RE-70	25[b]	20[b]	12	0.01 to 90 K
UAL50	RER-75 / RE-75	50[c]	30[c]	20	0.01 to 250 K

[1] For non-inductive windings, divide maximum resistance by 2
[2] E-24 / E-96, contact Bourns for availability of other values
[a] Heat Sink Required: 1.0 mm (0.040 in.) Alum. Plate, 832 cm^2 (129 $in.^2$) or equiv.
[b] Heat Sink Required: 1.0 mm (0.040 in.) Alum. Plate, 1077 cm^2 (167 in^2) or equiv.
[c] Heat Sink Required: 1.5 mm (0.059 in.) Alum. Plate, 1877 cm^2 (291 in^2) or equiv.

Specifications

Specification	Value
Tolerances	±0.01 % to ±10 % (1 % Standard)
Temperature Coefficient	>10 Ω: ±20 PPM/°C 1 Ω to 10 Ω: ±50 PPM/°C <1 Ω: Other TCR values available. Contact Bourns.
Temperature Range	-55 °C to +275 °C
Dielectric Strength	UAL5,10: 1500 VAC; UAL25: 2500 VAC; UAL50: 3500 VAC
Construction	Centerless ground ceramic core Matte tin over copper High-temperature epoxy molding compound, Flame resistant per UL 94V-0 Anodized aluminum housing All welded terminations

Environmental Performance

Specification (MIL-STD 202)	ΔR
Dielectric	±0.2 % + 0.05 Ω
Load Life	±1 % + 0.05 Ω
Storage	±0.2 % + 0.05 Ω
Moisture Resistance	±0.2 % + 0.05 Ω
Thermal Shock	±0.2 % + 0.05 Ω
5X Overload (5 s)	±0.2 % + 0.05 Ω
Shock	±0.1 % + 0.05 Ω
Vibration	±0.1 % + 0.05 Ω
Optional Lead Configuation	Wire, Flexible, Teflon, Quick Disconnect, Flying Leads, Formed

Additional Information

Click these links for more information:

PRODUCT | TECHNICAL LIBRARY | INVENTORY | SAMPLES | CONTACT

How To Order

UAL 25 - 10R F 1 -

Model
- UAL (standard)
- ULAN (non-inductive)

Power Code
(See Electrical Characteristics table)

Resistance Code
For values ≤10K Ω,
"R" represents decimal point
(Example: 10R = 10 Ω)
For values >10K Ω,
"K" represents decimal point
(Example 1K5 = 1.5K Ω)

Tolerance

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

Internal Use

Terminal
- (Blank) - 2 terminal solder lug
- 4T = 4 terminal solder lug
- 4TR = 4 terminal solder lug (2 terminal at right angle)
- 4 = 4 terminal axial lead

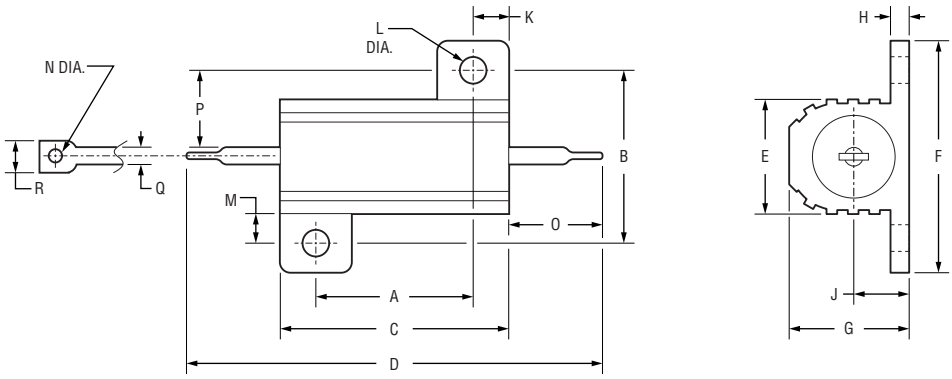
(Specific TCR value available upon request.)

**Contact Bourns for tolerances <±0.25 %.

CALIFORNIA WARNING: Can expose you to lead, a carcinogen and reproductive toxicant. See www.P65Warnings.ca.gov

*RoHS Directive 2015/863, Mar 31, 2015 and Annex.

Product Dimensions

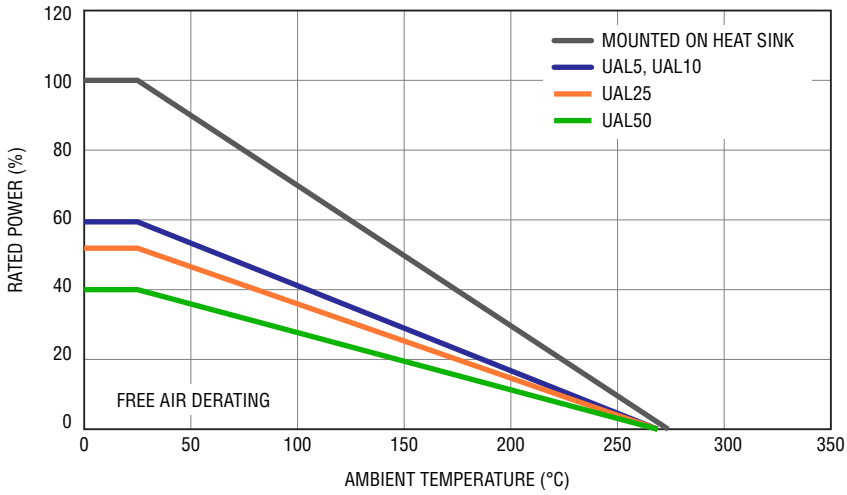


Bourns Model Number	A	B	C	D	E	F	G	H	J
UAL5	11.3 ± 0.13 (.444 ± .005)	12.4 ± 0.13 (.490 ± .005)	15.2 ± 0.8 (.600 ± .031)	28.5 ± 3.10 (1.125 ± .120)	8.5 ± 0.4 (.334 ± .015)	16.4 ± 0.4 (.646 ± .015)	8.1 ± 0.4 (.320 ± .015)	1.7 ± 0.25 (.065 ± .010)	3.6 ± 0.25 (.140 ± .010)
UAL10	14.3 ± 0.13 (.562 ± .005)	15.9 ± 0.13 (.625 ± .005)	19.1 ± 0.8 (.750 ± .031)	33.5 ± 3.10 (1.320 ± .120)	10.9 ± 0.4 (.430 ± .015)	20.3 ± 0.4 (.800 ± .015)	10.2 ± 0.4 (.400 ± .015)	1.9 ± 0.25 (.075 ± .010)	4.8 ± 0.25 (.190 ± .010)
UAL25	18.3 ± 0.13 (.719 ± .005)	19.8 ± 0.13 (.781 ± .005)	27.0 ± 0.8 (1.062 ± .031)	47.5 ± 3.10 (1.870 ± .120)	13.5 ± 0.4 (.530 ± .015)	27.4 ± 0.4 (1.080 ± .015)	14.2 ± 0.4 (.560 ± .015)	2.2 ± 0.25 (.085 ± .010)	6.6 ± 0.25 (.260 ± .010)
UAL50	39.7 ± 0.13 (1.563 ± .005)	21.4 ± 0.13 (.844 ± .005)	50.0 ± 0.8 (1.968 ± .031)	70.0 ± 3.10 (2.720 ± .120)	15.6 ± 0.4 (.615 ± .015)	29.0 ± 0.4 (1.140 ± .015)	15.6 ± 0.4 (.615 ± .015)	2.2 ± 0.25 (.085 ± .010)	7.6 ± 0.25 (.300 ± .010)

Bourns Model Number	K	L	M	N	O	P	Q	R
UAL5	2.0 ± 0.25 (.078 ± .010)	2.4 ± 0.13 (.093 ± .005)	2.0 ± 0.4 (.078 ± .015)	1.3 ± 0.15 (.050 ± .006)	6.8 ± 3.10 (.266 ± .120)	6.2 ± 0.8 (.245 ± .031)	1.30 ± 0.05 (.051 ± .002)	2.2 ± 0.8 (.085 ± .031)
UAL10	2.4 ± 0.25 (.093 ± .010)	2.4 ± 0.13 (.093 ± .005)	2.6 ± 0.4 (.102 ± .015)	2.0 ± 0.15 (.080 ± .006)	7.9 ± 3.10 (.312 ± .120)	7.9 ± 0.8 (.312 ± .031)	2.49 ± 0.05 (.098 ± .002)	4.0 ± 0.8 (.160 ± .031)
UAL25	4.4 ± 0.25 (.172 ± .010)	3.2 ± 0.13 (.125 ± .005)	3.2 ± 0.4 (.125 ± .015)	2.0 ± 0.15 (.080 ± .006)	11.1 ± 3.10 (.438 ± .120)	9.9 ± 0.8 (.391 ± .031)	2.49 ± 0.05 (.098 ± .002)	4.7 ± 0.8 (.185 ± .031)
UAL50	5.0 ± 0.25 (.196 ± .010)	3.2 ± 0.13 (.125 ± .005)	3.2 ± 0.4 (.125 ± .015)	2.0 ± 0.15 (.080 ± .006)	11.1 ± 3.10 (.438 ± .120)	10.7 ± 0.8 (.422 ± .031)	2.49 ± 0.05 (.098 ± .002)	4.7 ± 0.8 (.185 ± .031)

DIMENSIONS: MM / (INCHES)

Power Derating Curves



Packaging Specifications[1]

UAL5 / UAL10 / UAL25
Bulk ..... 250 pcs. max.
UAL50
Bulk ..... 100 pcs. max.

Note:
[1] All UAL models are max. 40 lbs. / shipping box

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REV. 05/26

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