



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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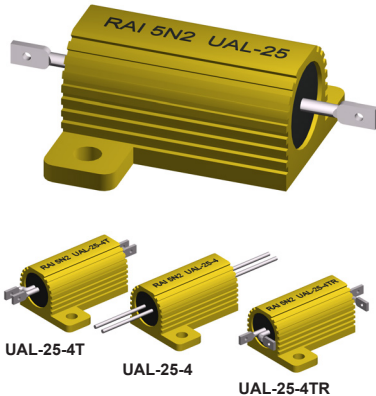
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UAL Series

Aluminum Housed Wirewound Resistors



- Power Rating 5 to 300Watts
- High Temperature: -55°C to +275°C
- Excellent Pulse Handling
- Resistances from 0.005 to 250kOhms
- Tolerance to $\pm 0.01\%$
- Low TCR: $\pm 20\text{ppm/K}$ Standard
- Four Terminal Versions Available
- All Welded Construction

SPECIFICATIONS

Type	MIL-R-39009 MIL-R-18546 Style	Power Rating (W @ 25°C)			Resistance Range ¹
		Commercial	MIL	Free Air	
UAL-5	RER-60 / RE-60	7.5 ^a	5 ^a	4.5	0.01 to 22K
UAL-10	RER-65 / RE-65	12.5 ^a	10 ^a	7.5	0.01 to 47K
UAL-25	RER-70 / RE-70	25 ^b	20 ^b	12	0.01 to 90K
UAL-50	RER-75 / RE-75	50 ^c	30 ^c	20	0.01 to 250K
UAL-100	RER-77 / RE-77	100 ^d	75 ^d	40	0.01 to 50K
UAL-180	-	180 ^d	-	-	0.01 to 50K
UAL-250	RER-80 / RE-80	250 ^d	120 ^d	100	0.01 to 50K
UAL-300	-	300 ^e	-	75	0.005 to 100K

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

^a Heatsink Required : 0.040 [1.0] Alum. Plate, 129 in² [832 cm²] or equiv.

^b Heatsink Required : 0.040 [1.0] Alum. Plate, 167 in² [1077 cm²] or equiv.

^c Heatsink Required : 0.059 [1.5] Alum. Plate, 291 in² [1877 cm²] or equiv.

^d Heatsink Required : 0.125 [3.2] Alum. Plate, 294 in² [1896 cm²] or equiv.

^e Heatsink Required : 0.125 [3.2] Alum. Plate, 895 in² [5780 cm²] or equiv.

Ordering Information

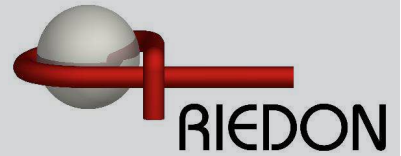
For Non-Inductive Windings / insert the letter "N" (i.e. UALN-25)

Part Number - Resistance - Tolerance - TCR (If not standard)

Example: UAL-25 10 Ohm 1%

UAL Series

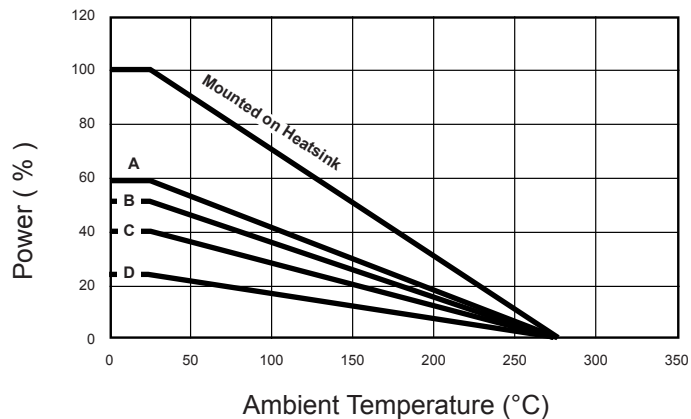
Aluminum Housed Wirewound Resistors



SPECIFICATIONS (continued)

Specification	Value
Tolerances	±0.01% to ±10% (1% Standard)
Temperature Coefficient	>10Ω : ±20ppm/K 1Ω to10Ω : ±50ppm/K <1Ω : Call Factory
Temperature Range	-55°C to +275°C
Dielectric Strength	UAL-5,10: 1500 VAC ; UAL-25: 2500 VAC ; UAL-50: 3500VAC ; Others: 5500VAC
Constuction	Centerless ground ceramic core Tinned copper or copperweld leads High-temperature epoxy molding Compound Anodized aluminum housing All welded terminations
Environmental Performance (MIL-STD 202)	ΔR
Dielectric	±0.2% + 0.05Ω
Load Life	±1% + 0.05Ω
Storage	±0.2% + 0.05Ω
Moisture Resistance	±0.2% + 0.05Ω
Thermal Shock	±0.2% + 0.05Ω
5X Overload (5s)	±0.2% + 0.05Ω
Shock	±0.1% + 0.05Ω
Vibration	±0.1% + 0.05Ω

Power Derating Curve



Free-air Derating

A : UAL-5, UAL-10

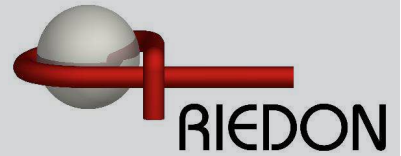
B : UAL-25

C : UAL-50, UAL-100, UAL-250

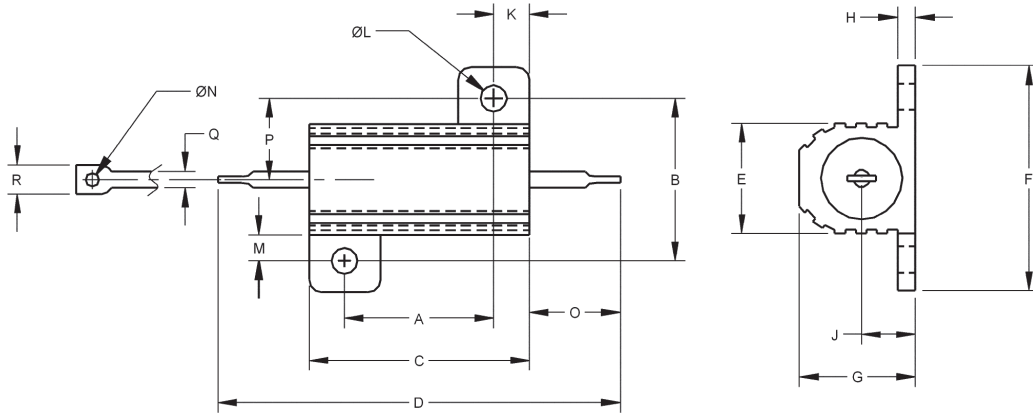
D : UAL-300

UAL Series

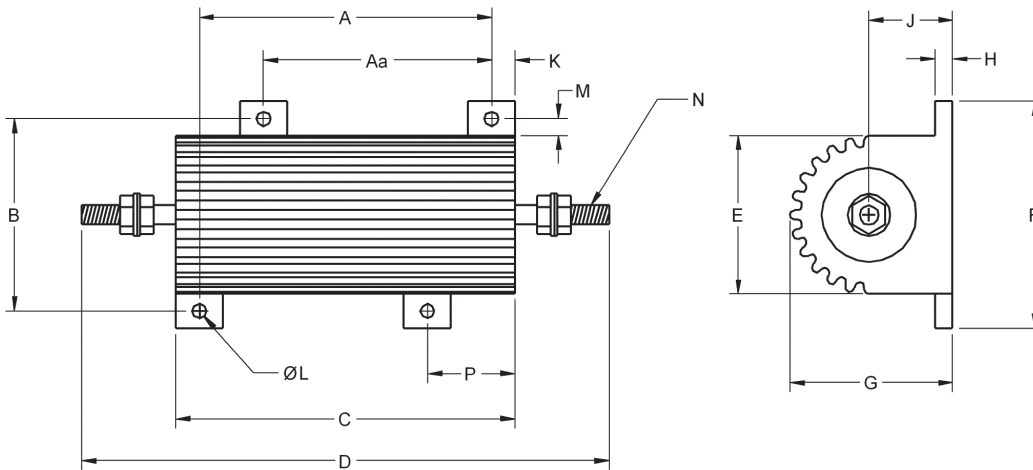
Aluminum Housed Wirewound Resistors



Dimensions



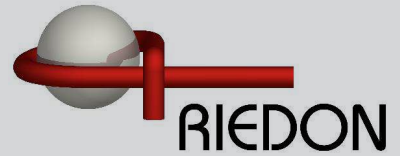
Type	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R
	±0.005 [±0.13]	±0.005 [±0.13]	±0.031 [±0.8]	±0.062 [±1.6]	±0.015 [±0.4]	±0.015 [±0.4]	±0.015 [±0.4]	±0.010 [±0.25]	±0.010 [±0.25]	±0.010 [±0.25]	±0.005 [±0.13]	±0.015 [±0.4]	±0.006 [±0.15]	±0.062 [±1.6]	±0.031 [±0.8]	±0.002 [±0.05]	±0.031 [±0.8]
UAL-5	0.444 [11.3]	0.490 [12.4]	0.600 [15.2]	1.125 [28.5]	0.334 [8.5]	0.646 [16.4]	0.320 [8.1]	0.065 [1.7]	0.140 [3.6]	0.078 [2.0]	0.093 [2.4]	0.078 [2.0]	0.050 [1.3]	0.266 [6.8]	0.245 [6.2]	0.051 [1.30]	0.085 [2.2]
UAL-10	0.562 [14.3]	0.625 [15.9]	0.750 [19.1]	1.320 [33.5]	0.430 [10.9]	0.800 [20.3]	0.400 [10.2]	0.075 [1.9]	0.190 [4.8]	0.093 [2.4]	0.093 [2.4]	0.102 [2.6]	0.080 [2.0]	0.312 [7.9]	0.312 [7.9]	0.098 [2.49]	0.160 [4.0]
UAL-25	0.719 [18.3]	0.781 [19.8]	1.062 [27.0]	1.870 [47.5]	0.530 [13.5]	1.080 [27.4]	0.560 [14.2]	0.085 [2.2]	0.260 [6.6]	0.172 [4.4]	0.125 [3.2]	0.125 [3.2]	0.080 [2.0]	0.438 [11.1]	0.391 [9.9]	0.098 [2.49]	0.185 [4.7]
UAL-50	1.563 [39.7]	0.844 [21.4]	1.968 [50.0]	2.760 [70.0]	0.615 [15.6]	1.140 [29.0]	0.615 [15.6]	0.085 [2.2]	0.300 [7.6]	0.196 [5.0]	0.125 [3.2]	0.125 [3.2]	0.080 [2.0]	0.438 [11.1]	0.422 [10.7]	0.098 [2.49]	0.185 [4.7]



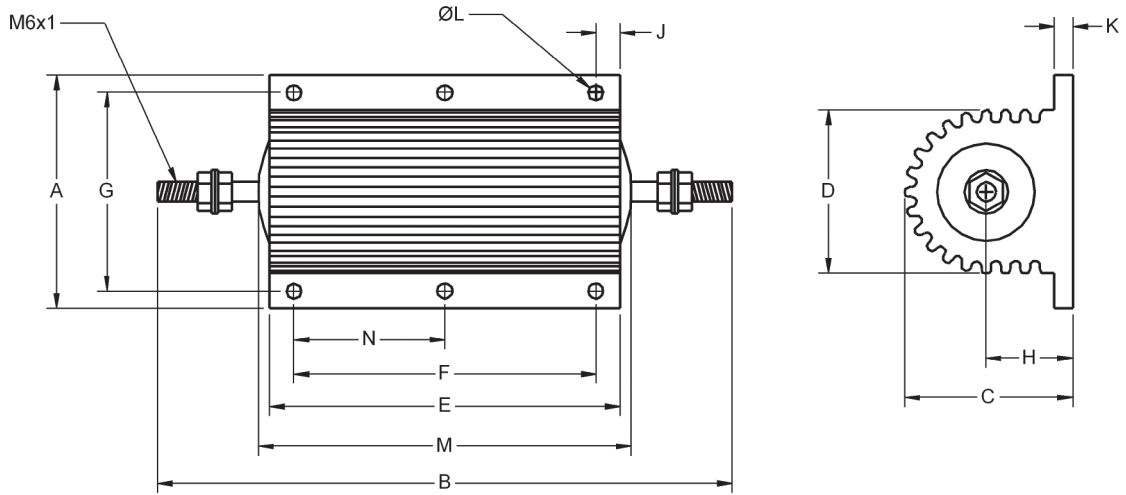
Type	A	Aa	B	C	D	E	F	G	H	J	K	L	M	N	P	Mtg. Screw
	±0.005 [±0.13]	±0.005 [±0.13]	±0.005 [±0.13]	±0.031 [±0.8]	±0.062 [±1.6]	±0.015 [±0.4]	±0.015 [±0.4]	±0.015 [±0.4]	±0.010 [±0.25]	±0.015 [±0.4]	±0.015 [±0.4]	±0.005 [±0.13]	±0.015 [±0.4]	N	±0.015 [±0.4]	
UAL-100	2.750 [69.9]	-	2.250 [57.2]	3.500 [88.9]	5.480 [139]	1.800 [45.7]	2.810 [71.4]	1.750 [44.5]	0.188 [4.8]	0.800 [20.3]	0.375 [9.5]	0.188 [4.8]	0.225 [5.7]	12-24	-	(2) #8
UAL-180	2.750 [69.9]	-	2.500 [63.5]	3.500 [88.9]	5.480 [139]	2.125 [54]	3.000 [76.2]	2.190 [55.6]	0.250 [6.4]	0.950 [24.1]	0.375 [9.5]	0.188 [4.8]	0.200 [5.1]	12-24	-	(2) #8
UAL-250	3.875 [98.4]	3.000 [76.2]	2.500 [63.5]	4.500 [114]	7.000 [178]	2.125 [54]	3.00 [76.2]	2.190 [55.6]	0.250 [6.4]	1.000 [25.4]	0.312 [7.9]	0.188 [4.8]	0.200 [5.1]	1/4-20	1.188 [30.7]	(4) #8

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Dimensions (continued)



Type	A MAX	B MAX	C MAX	D MAX	E MAX	F ±0.010 [±0.3]	G ±0.010 [±0.3]	H MAX	J MAX	K MAX	L ±0.010 [±0.3]	M MAX	N ±0.010 [±0.3]
UAL-300	2.854 [72.5]	7.260 [184.4]	1.646 [41.8]	1.791 [45.5]	5.028 [127.7]	4.094 [104.0]	2.323 [59.0]	0.807 [20.5]	0.488 [12.4]	0.217 [5.5]	0.260 [6.6]	5.567 [141.4]	2.047 [52.0]