UAL Series

Aluminum Housed Power Wirewound Resistors

UAL-25-4T

UAL-25-4

UAL-25-4TR

RoHS compliant

- **Power Rating 5 to 300Watts**
- **High Temperature: -55°C to +275°C**
- **Excellent Pulse Handling**
- **Resistances from 0.01 to 250k Ohms**
- **Tolerance to ±0.01%**
- **Low TCR: ± 20ppm/K Standard**
- **Various Terminal Option 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	10 [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[2]		100 [d]	75 [d]	40	0.01 to 70K
UAL-180[2]	-	180 [d]	-	-	0.01 to 50K
UAL-250[2]	RER-80 / RE-80	250 [d]	120 [d]	100	0.01 to 50K
UAL-300[2]	-	300 [e]	-	75	0.01 to 68K

[1] For non-inductive windings, divide maximum resistance by 2
[2] E-24 / E-96, check with factory on availability of other values
[a] Heatsink Required : 0.040 [1.0] Alum. Plate, 129 in^2 [832 cm^2] or equiv.
[b] Heatsink Required : 0.040 [1.0] Alum. Plate, 167 in^2 [1077 cm^2] or equiv.
[c] Heatsink Required : 0.059 [1.5] Alum. Plate, 291 in^2 [1877 cm^2] or equiv.
[d] Heatsink Required : 0.125 [3.2] Alum. Plate, 294 in^2 [1896 cm^2] or equiv.
[e] Heatsink Required : 0.125 [3.2] Alum. Plate, 895 in^2 [5780 cm^2] or equiv.

Ordering Information

For Non-Inductive Windings / insert the letter “N” (i.e. UALN-25)
Part Description: Part Type - Resistance - Tolerance - TCR (If not standard)
Example: UAL-25 10 Ohm 1%

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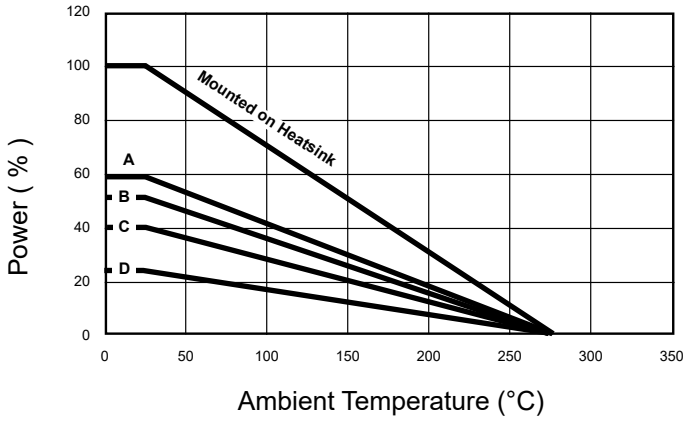
SPECIFICATIONS (continued)

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 Matte Tin over Copper High-temperature epoxy molding Compound, UL94-V0 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
Optional Lead Configuation	Wire, Flexible, Teflon, Quick Disconnect, Flying Leads, Formed

*Call factory for quote

Power Derating Curve



Free-air Derating
A : UAL-5, UAL-10
B : UAL-25
C : UAL-50, UAL-100, UAL-250
D : UAL-300

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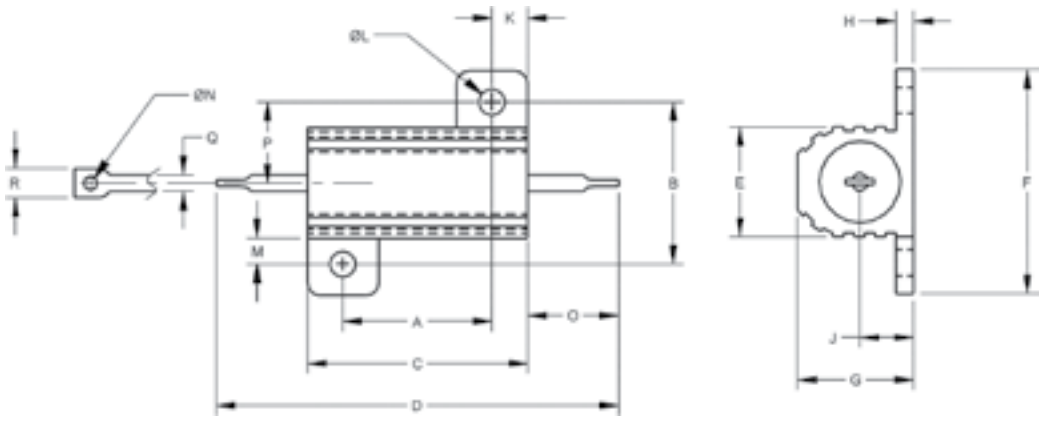

Type	A ±0.005 [±0.13]	B ±0.005 [±0.13]	C ±0.031 [±0.8]	D ±0.120 [±3.10]	E ±0.015 [±0.4]	F ±0.015 [±0.4]	G ±0.015 [±0.4]	H ±0.010 [±0.25]	J ±0.010 [±0.25]	K ±0.010 [±0.25]	L ±0.005 [±0.13]	M ±0.015 [±0.4]	N ±0.006 [±0.15]	O ±0.120 [±3.10]	P ±0.031 [±0.8]	Q ±0.002 [±0.05]	R ±0.031 [±0.8]
UAL-5	0.444 [11.3]	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]	2.720 [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]

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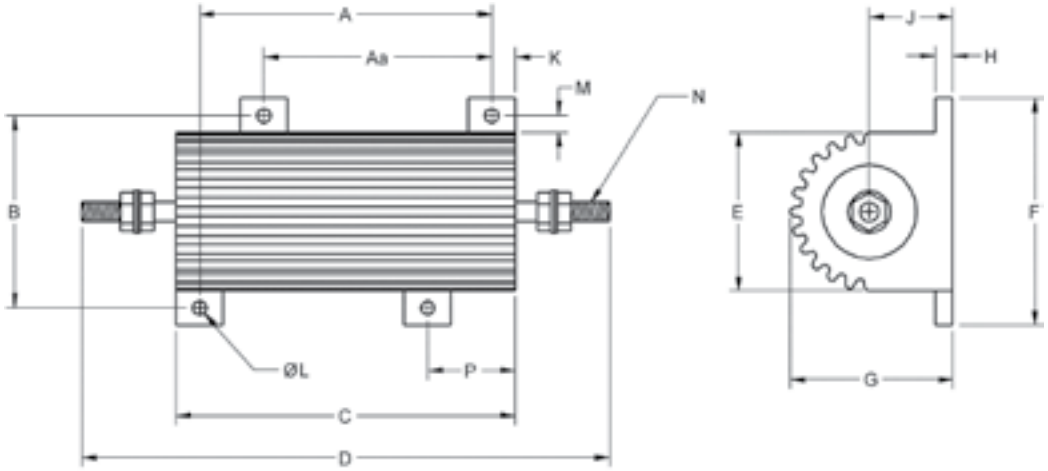
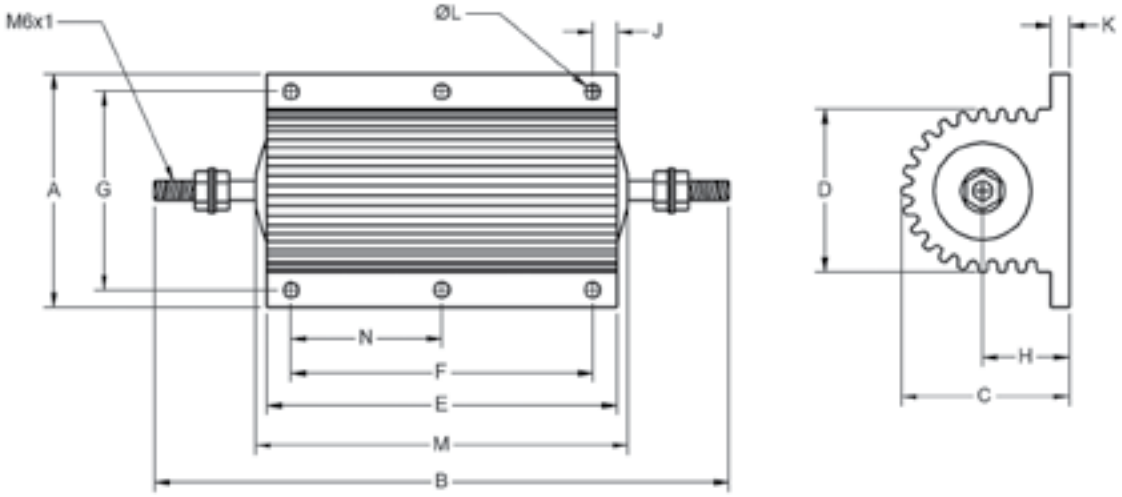
Dimensions (continued)



Type*	A ±0.005 [±0.13]	Aa ±0.005 [±0.13]	B ±0.005 [±0.13]	C ±0.031 [±0.8]	D ±0.062 [±1.6]	E ±0.015 [±0.4]	F ±0.015 [±0.4]	G ±0.015 [±0.4]	H ±0.010 [±0.25]	J ±0.015 [±0.4]	K ±0.015 [±0.4]	L ±0.005 [±0.13]	M ±0.015 [±0.4]	N	P ±0.015 [±0.4]	Mtg. Screw
UAL-100	2.750 [69.9]	-	2.250 [57.15]	3.500 [88.9]	5.478 [139]	1.800 [45.7]	2.813 [71.5]	1.750 [44.5]	0.188 [4.78]	0.800 [20.3]	0.375 [9.52]	0.188 [4.78]	-	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

*Built to Mil-Spec standard. Not for new design.



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-250A	2.854 [72.5]	6.675 [167.0]	1.646 [41.8]	1.791 [45.5]	4.319 [109.7]	3.504 [89.0]	2.252 [57.2]	0.807 [20.5]	0.409 [10.4]	0.217 [5.5]	0.260 [6.6]	4.819 [122.4]	1.752 [44.5]
UAL-300A	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]

*Commercial equivalent for new designs. Cost effective alternative.

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