

# ALUMINUM HOUSED RESISTORS

## 600 SERIES

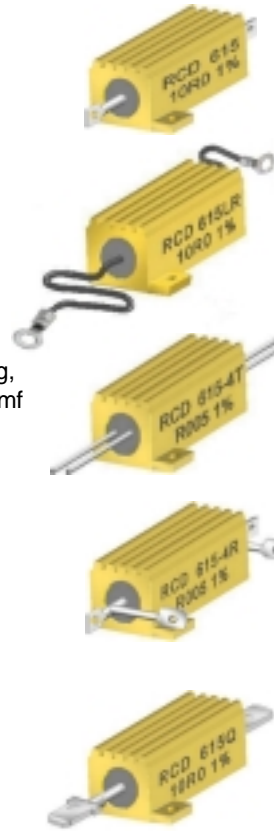
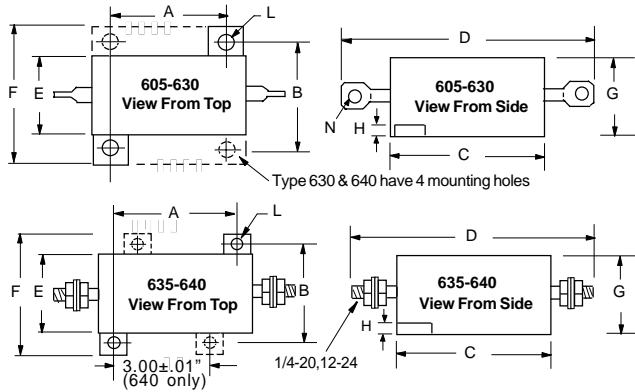


Term.W is RoHS compliant & 260°C compatible



RESISTORS • CAPACITORS • COILS • DELAY LINES

- Widest selection in the industry! 5 to 1000 Watt
- 0.005Ω to 1MΩ, tolerance to .01%, TC to 5ppm
- High power in compact size
- Welded construction, low noise, high pulse capability
- Available on exclusive **SWIFT™** delivery program!
- **Option X:** Non-inductive
- **Option P:** Increased pulse capability
- **Option ER:** 100 hour burn-in per MIL-PRF-39009
- **Option B:** Increased power
- Additional modifications: unanodized cases, custom marking, increased dielectric/creepage & working voltage, low thermal emf (opt.E), etc. Customized components are an RCD Specialty!



Standard units feature lug terminals (605 - 630) or threaded terminals (635 & 640).

Option L (605-625): Insulated stranded wires embedded into the case. Black TFE 18awg x 12" L with 1/4" strip is standard (16awg TFE & 14awg PVC avail). Also available with 4 insulated lead wires (Opt.4L), and with a wide variety of terminals... quick-connect male (Opt. LM=.25x.032); female (Opt. LF=.25x.032", LFS=.187x.020); ring terminal (Opt. LR=.145" I.D., LRR=.25" I.D.).

Option 2T & 4T (605-625): Straight leadwires. 2T is 2-terminal design, 4T is 4-terminal. Each have 18awg x 1" min lead length. 16awg x 1" and 12AWG x .5" also available (12 AWG not avail in Opt 4T).

Option 4R (605-630): 4-terminal design. 16AWG lug terminals are welded to standard terminals.

Option Q (605-630): .187x.020" male fast-on terminal; Opt. Q2 is .250x.032 male terminal).

### SPECIFICATIONS: Consult factory for dimensions on liquid cooled design up to 1000 Watt

RCD Type	MIL Type <sup>1</sup>	Wattage, Mounted			Resis. Range (Ω)	Voltage Rating <sup>2</sup>	A ±.005	B ±.005	C ±.062	D ±.062	E ±.031	F ±.031	G ±.031	H ±.010	L ±.005	N ±.005	Mtg Screw
		Std	Opt.B	MIL													
605	RE/RER60	7.5	15	5	.005-20K	160	.444 [11.3]	.490 [12.5]	.600 [15.2]	1.125 [28.6]	.334 [8.5]	.646 [16.4]	.320 [8.2]	.065 [1.6]	.093 [2.4]	.050 [1.3]	#2 [M2]
610	RE/RER65	12.5	20	10	.005-100K	265	.562 [14.3]	.625 [15.9]	.750 [19.0]	1.375 [35.0]	.420 [10.8]	.800 [20.3]	.405 [10.3]	.075 [1.9]	.093 [2.4]	.086 [2.2]	#2 [M2]
615	RE/RER70	25	35	20	.005-200K	550	.719 [18.3]	.781 [19.8]	1.062 [27.0]	1.938 [49.3]	.531 [13.5]	1.080 [27.4]	.546 [13.9]	.088 [2.2]	.125 [3.2]	.086 [2.2]	#4 [M2.5]
620	RE/RER75	50	60	30	.005-400K	1250	1.563 [39.7]	.844 [21.5]	1.968 [50.0]	2.781 [70.6]	.609 [15.6]	1.140 [28.8]	.610 [15.5]	.088 [2.2]	.125 [3.2]	.086 [2.2]	#4 [M2.5]
625	-	75	-	-	.01-500K	1900	1.563 [39.7]	.844 [21.5]	2.850 [72.4]	3.663 [93.0]	.609 [15.6]	1.140 [28.8]	.610 [15.5]	.088 [2.2]	.125 [3.2]	.086 [2.2]	#4 [M2.5]
630	-	100	-	-	0.1-100K	1900	1.377±.01 [35.0]	1.457±.01 [37.0]	2.579 [65.5]	3.38±.09 [85.9]	1.053 [26.7]	1.839 [46.7]	.960±.05 [24.4]	.138±.03 [3.5]	.173±.01 [4.4]	.086 Min [2.2]	#8 [M4]
635	RE77	100	150	75	0.1-600K	1900	2.75±.01 [69.85]	2.25±.01 [57.15]	3.50 [88.9]	5.48±.09 [139.14]	1.812 [46.0]	2.812 [71.42]	1.75 [44.45]	.188±.03 [4.78]	.188±.01 [4.78]	n/a	#8 [M4]
640	RE80	250	300	120	0.1-1M	2300	3.875±.01 [98.42]	2.50±.01 [63.5]	4.50 [114.3]	7.00±.09 [177.8]	2.125 [53.98]	3.00 [76.2]	2.188 [55.58]	.250±.03 [6.35]	.188±.01 [4.78]	n/a	#8 [M4]

<sup>1</sup> Military part numbers are for reference only and do not imply qualification. <sup>2</sup> Max. voltage = (PR)<sup>1/2</sup>, not to exceed the value listed (increased ratings avail). Multiply by 0.7 for Opt.X.

### TYPICAL PERFORMANCE CHARACTERISTICS:

<b>Temp. Coefficient</b>	.005 - .0099Ω: 600ppm std (200, 300ppm opt.) .01 - .049Ω: 300ppm std (100, 200ppm opt.) .05 - .099Ω: 200ppm std (50, 100ppm opt.) .1 - .99Ω: 90ppm std (10, 20, 30, 50ppm opt) 1 - 9.9Ω: 50ppm std (10, 20, 30ppm opt.) 10Ω & above: 20ppm std (5, 10ppm opt.)
<b>Dielectric (DWV)</b>	<b>Standard<sup>3</sup></b> 605, 610 1KV 615, 620, 625 2KV (Opt.34), 3KV (Opt.41) 630, 635, 640 2.5KV <b>Optional</b> 2KV (Opt.36), 2.5KV (Opt.34) 2.5KV (Opt.34), 3KV (Opt.41) 3KV (Opt.41), 4KV (Opt.65)
<b>Inductance, Opt.X</b>	<b>≤50Ω</b> 605 0.2uH Max 610, 615 0.3uH Max 620, 625 0.65uH Max 630, 635, 640 1.5uH Max <b>&gt;50Ω</b> 0.37uH Max 0.6uH Max 1.2uH Max 3.0uH Max
<b>Load Life (1000 hrs)</b>	±1% (±2% for 625-640, and ±3% Opt.B)
<b>Moisture Resistance</b>	±0.5%
<b>Overload</b>	5x rated W, 5 Sec (V not to exceed DWV)
<b>Terminal Strength</b>	10-lb pull test
<b>Insul. Resistance</b>	10,000MΩ
<b>Operating Temp.</b>	-55°C to +250°C

<sup>3</sup> The dielectric strength on Opt. L resistors is 50% of standard (available up to 3KV)

**DERATING:** Power rating is based on the use of a suitable heat sink and thermal compound to limit case temp. to 200°C. Derate wattage 0.44%/°C above 25°C. Recommended aluminum chassis area is 64in<sup>2</sup> x.040" thick for type 605 and 610, 83in<sup>2</sup> x.040" thick for type 615, 144in<sup>2</sup> x.060" thick for type 620, and 144in<sup>2</sup> x .125" for types 625 through 640. Without a heat sink, derate wattage rating by 60%.

### P/N DESIGNATION:

**610 - 1001 - F B W**

**RCD Type** \_\_\_\_\_

**Options:** X, Q2, Q, P, LRR, LR, LM, LFS, LF, L, ER, E, B, 65, 41, 36, 34, 16, 14, 4T, 4R, 4L (leave blank if std)

**Resis. Code:** ≤1%: 3 signif. figures & multiplier, e.g. R010=0.01Ω, R100=0.1Ω, 1R00=1Ω, 1000=100Ω, 1001=1KΩ

**Resis. Code 2% - 10%:** 2 signif. figures & multiplier, e.g. R01Ω=0.01, R10=0.1Ω, 1R0=1Ω, 100=10Ω, 102=1KΩ

**Tolerance:** K=10%, J=5%, H=3%, G=2%, F=1%, D=0.5%, C=0.25%, B=0.1%, A=0.05%, Q=0.02%, T=0.01%

**Packaging:** B = standard

**Non-std lead length for option L (inches):** (12" = std) 4", 16", etc.

**Optional TC** (leave blank if std): 5=5ppm, 10=10ppm; 20=20ppm; 30=30ppm; 50=50ppm; 101=100ppm, 201=200ppm, 301=300ppm)

**Termination:** W= Lead-free, Q= Tin/Lead (leave blank if either is acceptable)