PRECISION POWER WIREWOUND RESISTORS
SILICONE COATED 1/2 WATT TO 50 WATT

RESISTORS•CAPACITORS•COILS•DELAY LINES

100 SERIES

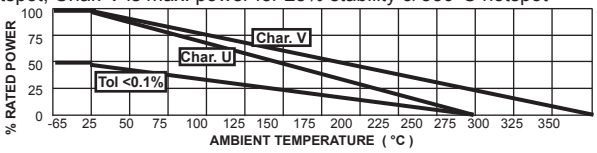
Term.W is Pb-free and RoHS compliant

World's widest range! 0.005Ω ~2MΩ, ±0.005% ~10%, 0.5W ~50W. Low cost, available from stock & exclusive ***SWIFT™*** delivery program.

OPTIONS

- ❒ Option X: Low Inductance
- ❒ Option P: Increased Pulse Capability
- ❒ Option F: Flameproof Coating UL94V-0
- ❒ Option ER: 100-Hour Burn-In
- ❒ Option B: Increased Power
- ❒ Radial leads (opt.R), low thermal emf (opt.E), matched sets, custom marking, cut & form, Hi-Rel screening, non-standard values, high-voltage, etc. Customized components are RCD's speciality!

DERATING (derate W/V/A ratings when ambient temp >25°C): Char. U is max. power for ±0.5% typ. operational life stability & 275°C hotspot; Char. V is max. power for ±3% stability & 350°C hotspot

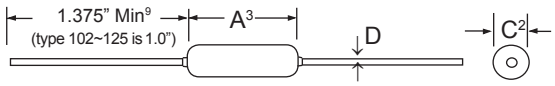


Series 100 resistors offer exceptional performance at an economical cost. Superior stability results from welded construction and windings of premium grade resistance wire on thermally conductive ceramic cores. Hi-temp silicone coating provides excellent protection & solvent resistance. Tin (or SnPb) coated copper/copperweld leads ensure proper solderabilty and extended shelf life. Marked with resis.value & tol. as minimum (custom marking avail).

PULSE CAPABILITY: Excellent pulse ability is inherent with the all-welded wirewound construction, but can be enhanced by a factor of 50% or more via special Option P processing (up to 500 joules). Pulse capability is highly dependent on pulse duration, repetition rate & resis. value, consult factory.

INDUCTANCE: small sizes have inductance of 1- 50uH typ. Larger sizes and higher values typically have greater levels. For non-inductive design, specify Opt. X. The max. series inductance for Opt.X resistors at 0.5MHz is listed in table (per MIL-R-39007). Specialty constructions are available for even lower inductance levels (Opt.75 inductance= 50% of Opt.X, Opt.76=33%).

RCD Type	≤ 50Ω	> 50Ω
102X-140X	0.2μH	0.37μH
145X-160X	0.3μH	0.6μH
165X-178X	0.65μH	1.2μH



	RCD Type	MIL Type[5]	Std. Wattage Ratings[10]		Opt.B Wattage Ratings[10]		Resistance Range[6,7]	Maximum Voltage Rating [1,6]	DIMENSIONS [Numbers in brackets are mm]			
									A[3]	C[2]	D[8] ± .003 [.08]	
			Char.U	Char.V	Char.U	Char.V			± .062 [1.58]	110-155: ± .032 156-190: ± .045	Std.	Optional
	102	-	0.5	0.8	0.8	1.0	.01Ω - 2K	30V	.16 ±.03 [4.±.8]	.07±.02[1.8±.5]	.020	-
	110	RW81 (110B)	0.8	1.0	1.5	2.0	.01Ω - 8K	40V	.24 ±.03 [6.±.8]	.085 [2.16]	.020	.024 (opt. 22)
	115	-	1.0	1.2	1.5	2.0	.01Ω - 12K	45V	.312 [7.92]	.085 [2.16]	.020	.024 (opt. 22)
	120	-	1.0	1.2	-	-	.01Ω - 15K	50V	.344 [8.74]	.096 [2.44]	.020	.024 (opt. 22)
Stock	125	RW70 (125B RW80)	1.5	1.8	2.0	2.5	.01Ω - 20K	55V	.385 [9.78]	.096 [2.44]	.020	.024 (opt. 22)
	130	-	1.6	2.0	-	-	.01Ω - 22K	65V	.530 [13.5]	.096 [2.44]	.020	.024 (opt. 22)
	133	-	2.0	3.0	3.0	4.0	.005Ω - 20K	80V	.355 [9.00]	.156 [3.96]	.031	.024 (opt. 22)
Stock	135	RW69	3.0	4.0	4.0	5.0	.005Ω - 40K	140V	.500 [12.7]	.188 [4.78]	.031	.024(22), .040(18)
	140	RW79	3.0	4.0	4.0	5.0	.005Ω - 50K	140V	.550 [14.2]	.188 [4.78]	.031	.040 (opt. 18)
	145	-	3.5	4.5	4.5	6.5	.005Ω - 60K	180V	.770 [19.6]	.188 [4.78]	.031	.040 (opt. 18)
	150	-	3.5	4.5	5.0	7.0	.005Ω - 60K	150V	.500 [12.7]	.225 [5.72]	.040	.032 (opt. 20)
	155	-	4.0	5.0	6.0	8.0	.005Ω - 100K	210V	.625 [15.9]	.225 [5.72]	.040	.032 (opt. 20)
	156	-	5.0	6.0	-	-	.005Ω - 150K	300V	.800 [20.3]	.250 [6.35]	.040	.032 (opt. 20)
Stock	160	RW74	5.0	7.0	7.0	10	.005Ω - 200K	400V	.875 [22.2]	.312 [7.92]	.040	.032 (opt. 20)
	165	RW67	6.0	7.5	-	-	.005Ω - 220K	450V	1.000 [25.4]	.312 [7.92]	.040	.032 (opt. 20)
	170	-	7.0	9.0	10	12	.005Ω - 300K	550V	1.200 [30.9]	.312 [7.92]	.040	.032 (opt. 20)
	171	-	7.0	8.5	-	-	.005Ω - 250K	700V	1.660 [42.2]	.208 [5.28]	.031	.040 (opt. 18)
	172	-	8.5	10	-	-	.005Ω - 400K	900V	2.100 [53.3]	.225 [5.72]	.031	.040 (opt. 18)
	173	-	9.0	11	12	14	.005Ω - 400K	650V	1.550 [39.4]	.300 [7.62]	.040	.032 (opt. 20)
Stock	175	RW68, 78	10	13	15	18	.005Ω - 500K	900V	1.720[4] [43.7]	.350[4] [8.89]	.040	.032 (opt. 20)
	176	-	10	12	-	-	.005Ω - 500K	800V	1.875 [47.6]	.300 [7.62]	.040	.032 (opt. 20)
	178	-	13	15	-	-	.01Ω - 750K	1150V	2.410 [61.2]	.350 [8.89]	.040	.032 (opt. 20)
	180	RW56	14	16	16	20	.01Ω - 800K	1000V	2.100 [53.3]	.500 [12.7]	.040	-
	185	-	20	25	-	-	.015Ω - 1M	1350V	2.800 [71.1]	.500 [12.7]	.040	-
	186	-	25	30	-	-	.010Ω - 1M	1400V	4.060 [103]	.350 [8.89]	.040	.032 (opt. 20)
	190	-	40	50	-	-	.025Ω - 2M	1500V	5.000 [127]	.500 [12.7]	.040	-

[1] Working voltage=(PR)[1/2], not to exceed max rating (multiply by 0.7 for Opt.X) [2] Allow .032" additional for Opt X, Opt 33, or values<1Ω [3] Coating overflow onto each lead ≤2xD typ [4] Performance is typical for Char.U with tol ≤1%, & is dependent on resis, options, etc. Consult factory for Char.V & tol >1% [5] Military p/n's are given for reference only & do not imply qualification or exact interchangeability [6] Increased range avail [7] Resis value measured at 3/8"±1/16 from each end of body [8] Heavier lead gauge option is recommended on low values to enable lower leadwire resis., increased current, & improved TC [9] Lead length applies to bulk packaged units (taped parts generally have shorter leads, refer to taping spec.) [10] Series 100 has dual power rating depending on temp.rise & stability requirements; derate 50% to ensure high reliability & operational life stability

TYPICAL PERFORMANCE[4]

Operational Life (Char.U)	±0.5% (±1% on Opt.B & sizes ≥10W)
Thermal Shock	±0.2%
Moisture Resistance	±0.2%
Shock and Vibration	±0.1%
Overload, 5 Sec	5x rated W 102-156, 10x W 160-190
Dielectric Strength: type 102-130 Dielectric Strength: type 133-190	300V (for 500V specify opt.23) 500V (for 1KV specify opt.33)
Max. Current (not to exceed wattage or voltage rating)	Resistors with .020"lead dia = 11A, .024" =15A, .032" =22A, .040"=30A
TCR: temp coefficient of resistance element, tol ≤1% (contact factory >1%) . ≥10Ω 1- 9.9Ω 0.1-.99Ω 050-.099Ω .01Ω -.049Ω	20ppm (5 & 10ppm avail.) 50ppm (10, 20, 30ppm avail.) 90ppm (20, 30, 50 ppm avail.) 300ppm (50, 100, 200ppm avail.) 600ppm (100, 200, 300ppm avail.)

P/N DESIGNATION:

135 ☐ - **102** - **J** **B** ☐ **W**

RCD Type

Options: X, R, V, P, F, ER, E, B, 76, 75, 33, 22, 20, 18 (leave blank if standard)

Resis. Code 1% & tighter tols: 3 signif. digits & multiplier, e.g. R100= 0.1Ω, 1R00= 1Ω,1000= 100Ω, 1001= 1KΩ.
2%-10%: 2digits & multiplier (R10= .1Ω, 1R0=1Ω,100=10Ω, 102=1K). Use extra digits as needed: R005, R0075, R012, etc.

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%, V=.005%

Packaging: B= Bulk, T= T&R (avail. on type 102 to 176)

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

Termination: W=RoHS (std), Q= Tin/Lead (leave blank if both acceptable)

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FA039H Sale of this product is in accordance with GF-061. Specifications subject to change without notice.