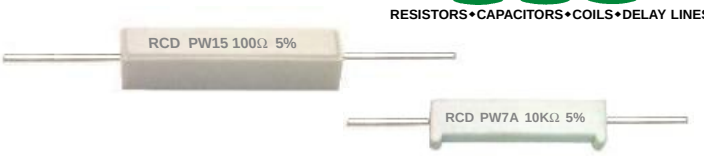
RESISTORS•CAPACITORS•COILS•DELAY LINES

GENERAL PURPOSE 1W TO 25W CERAMIC-ENCASED RESISTORS

PW SERIES

RoHS Term.W is RoHS compliant & 260°C compatible



- ❒ Low cost and the industry's broadest selection!
- ❒ Available from stock in popular sizes (5W & 10W, 0.1Ω to 5K) and selected values in other sizes; non-stock items are available on exclusive ***SWIFT™*** delivery program
- ❒ Tolerance to ±0.05%, TCR to ±5 ppm/°C
- ❒ Wide resistance range: .05Ω to 1MegΩ
- ❒ Tape & Reel available up to 10W size (Opt.A not avail. on T&R)

OPTIONS

- ❒ Option X: Non-inductive (PW5X & smaller: ≤50Ω =0.2uH max, >50Ω= 0.37uH max; PW7X & larger: ≤50Ω=0.3uH max, >50Ω= 0.6uH max). Reduced inductance levels available
- ❒ Option T: Temp. sensitive (up to +6000ppm/°C)
- ❒ Option P: Increased pulse capability
- ❒ Option FF: Fuse within 10S at 30x rated W[4] and within 45S at 20x rated W (1Ω to 1K). Custom fusing characteristics avail.
- ❒ Option B: Increased power
- ❒ Option A: Standoffs built into ceramic case
- ❒ Additional options available... burn-in, special marking, non-standard values, increased voltage, longer or heavier gauge leads, specialty lead wire material/plating/insulation, cut & formed leads, etc. Customized components are an RCD specialty!

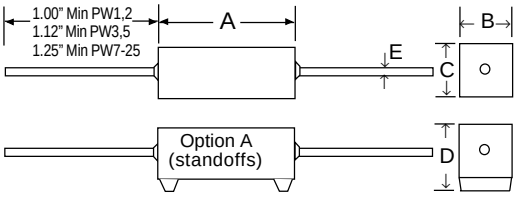
PW resistors are designed for general purpose and semi-precision power applications. The fireproof ceramic construction provides excellent thermal conductivity and resistance to moisture & solvents. Typical marking is 'RCD', value, tol. &wattage (or type). The resistance element is wirewound on lower values, & power film on higher values depending on options (opt. P & T parts are always WW). If a specific construction is preferred, specify opt.WW or M (not avail. in all values).

APPLICATION NOTE #1: Resistor Comparison

Series PW resistors offer moderate performance levels at prices below that of other WW or film technologies. Other choices for medium power applications are Series PV resistors (2W to 10W, similar to PW in vertical package); Series 100 military grade WW (1/2W to 50W, offers improved performance, pulse capability, and reliability); Series RW (1W to 5W WW, offers space savings); and Series RSF/RMF power film (1/2W to 9W, offers reduced inductance).

APPLICATION NOTE #2: Temperature Rise

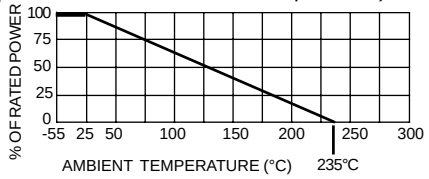
Power resistors reach elevated temperatures (typically 125° to 250°C) when operated at full wattage, so when utilizing above 50% power rating, the bodies should be mounted off the PCB with adequate clearance from heat sensitive components. Opt. A standoffs are helpful in preventing heat transfer to PCB.



Stock

DERATING CURVE:

(derate W/V/A when ambient temp. > 25°C)



Stock

RCD Type	Wattage		Resis. Range (0.05Ω -	Rated Continuous Working Voltage[1]	DIMENSIONS Inch [mm]				
	Std.	Opt. B			A (Max.)	B ±.032 [.81]	C ±.05 [1.3]	D Max.	E ±.004 [.1]
PW1	1	2	1M	100[2]	.62 [15.8]	.25 [6.4]	.25 [6.4]	N/A	.028 [.7]
PW2	2	3	1M	100[2]	.72 [18.3]	.27 [6.8]	.27 [6.8]	.39 [4.9]	.028 [.7]
PW3	3	5	1M	150[2]	.91 [23.1]	.31 [7.9]	.31 [7.9]	.43 [10.9]	.031 [.8][3]
PW5	5	7	1M	200[2]	.91 [23.1]	.38 [9.7]	.35 [8.9]	.47 [11.9]	.031 [.8][3]
PW7	7	10	1M	350	1.42 [36]	.38 [9.7]	.35 [8.9]	.52 [13.2]	.031 [.8][3]
PW10	10	-	1M	500	1.96 [50]	.38 [9.7]	.38 [9.7]	.52 [13.2]	.031 [.8][3]
PW15	15	-	30K	540	1.96 [50]	.50 [12.7]	.50 [12.7]	.68 [17.2]	.031 [.8][3]
PW20	20	-	40K	600	2.55 [65]	.58 [14.7] max	.50 [12.7]	.70 [17.8]	.031 [.8][3]
PW22	22	-	40K	650	2.55 [65]	.58 [14.7] max	.50 [12.7]	.70 [17.8]	.031 [.8][3]
PW25	25	-	40K	700	2.55 [65]	.58 [14.7] max	.50 [12.7]	.70 [17.8]	.031 [.8][3]

[1] Maximum voltage rating is determined by E= $\sqrt{PR}$, E should not exceed value listed.
[2] Specify opt. 59 for double voltage rating. [3] Specify opt.18 for 18AWG (.040") diameter leads.

TYPICAL PERFORMANCE FOR SERIES PW

Temperature Coef $_{T25\text{-}T100}$	1Ω and above	100ppm/°C typ., 300ppm max.[1]
	0.05Ω to 1Ω	200ppm/°C typ., 600ppm max.[1]
Operating Temp.		-55° to +235° C [2]
Terminal Strength		5 lbs. minimum
Dielectric Strength		1000V
5 Sec. overload (≤1.5x max V)		3X rated wattage (Opt. WW = 5X)
Moisture Resistance		3.0% [3]
High Temp. Exposure		1.0% [3]
Load Life (1000 hours)		3.0% [3]
Temperature Cycling		2.0% [3]
Shock and Vibration		1.0% [3]

[1] TC to 5ppm available >10Ω, 10ppm 1-10Ω, 20ppm 0.1-1Ω [2] 275°C avail [3] Tightened performance avail [4] Opt FF max fault nte 1.5x RCWV or 200x W rating

P/N DESIGNATION:

PW10 ❒ - 100 - J B ❒ W

RCD Type

Options: X, WW, T, P, M, FF, B, A, 59, 18 (Leave blank if standard)

Resis.Code .05%-1%: 3 signif. figures & multiplier, R100=0.1Ω, 1R00=1Ω, 10R0=10Ω, 1000=100Ω, 1001=1K.
Resis.Code 2%-10%: 2 signif. figures & multiplier, R10=0.1Ω, 1R0=1Ω, 100=10Ω, 101=100Ω, 102=1K.
If necessary, use additional (significant) digits, e.g. R005 for 0.005Ω, R0075 for 0.0075Ω in any tolerance.

Tolerance: K=10%, J=5% (std), H=3%, G=2%, F=1%, D=0.5%, C=0.25%, B=0.1%

Packaging: B=Bulk (standard), T= Tape & Reel

Temp. Coefficient (leave blank for standard TC): 5=5ppm, 10=10ppm, 20= 20ppm, 50=50ppm, 101=100ppm, 201=200ppm

Termination: W= Lead-free, Q= Tin/Lead (leave blank if either is acceptable, in which case RCD will select based on lowest price and quickest delivery)

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