SURGE RESISTORS, 1/8W to 15W, 2KV to 25KV

PR SERIES

RoHS Term."W" is Pb-free and RoHS compliant; "Q" is Sn-Pb

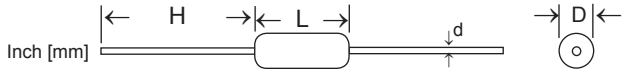
- ❒ Cost effective high-voltage surge resistors to 200 joules
- ❒ Available on RCD's exclusive ***SWIFT***™ program
- ❒ Molded surface mount version available (PRM series)

OPTIONS

- ❒ Opt. ER: Group A Screening per MIL-R-39008 RCR
- ❒ Opt. F: Flameproof coating
- ❒ Opt. B: Increased power (see Specifications table)
- ❒ Opt. X: Non-inductive (see Performance Char. table)
- ❒ Custom marking, cut & form, burn-in, etc.

Excellent Low Cost Replacement for Composition Resistors

Series PR pulse resistors withstand higher energy pulses than conventional film & wirewound types, without the performance disadvantages of carbon comp resistors. The heavy duty construction features a high thermal conductivity core and coating, enabling improved stability and environmental performance. Series PR satisy a wide variety of pulse applications including lightning, snubber, in-rush current, capacitor charge, etc. RoHS (Sn) or Mil-spec (Sn-Pb) termination finish available.

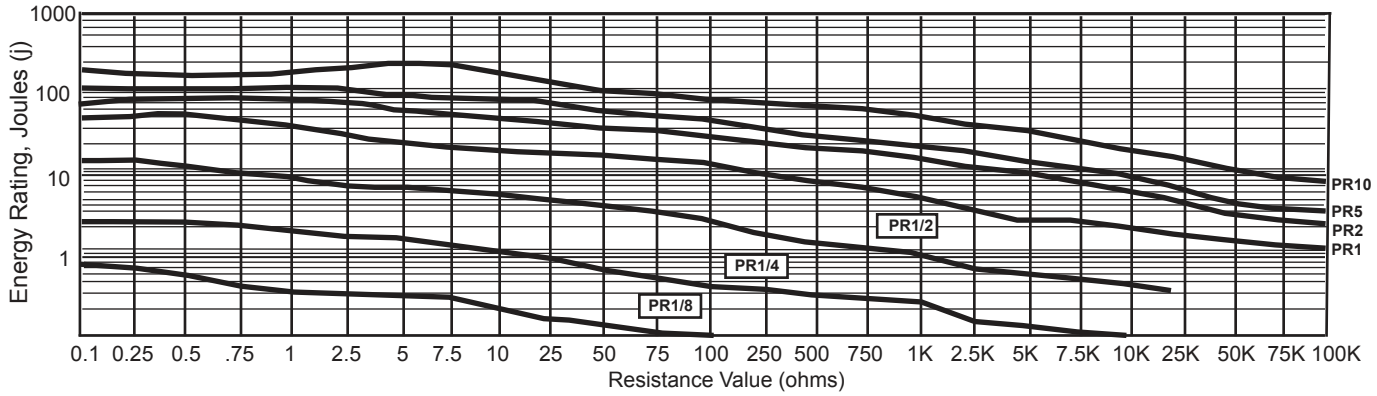


SPECIFICATIONS

RCD Type	Wattage Rating		Max. Continuous Voltage[1,5,8]	Max. Peak Pulse Voltage[2,5,8]	Resistance Range[5]	L (Body Length)	D[6] (Body Dia.)	d±.004 [.1]	H[4] (min)
	Standard	Option B							
PR1/8	1/8W	1/2W	150V	2KV	0.1Ω-2K	.145±.025 [3.69±.64]	.062±.015 [1.6±.38]	.018 [.46]	1.0 [25.4]
PR1/4	1/4W	1W	250V	3.5KV	0.1Ω-10K	.240±.032 [6.1±.8]	.085±.025 [2.16±.64]	.022 [.56]	1.0 [25.4]
PR1/2	1/2W	2W	350V	5KV	0.1Ω-24K	.375±.040 [9.2±1]	.156±.025 [3.96±.64]	.028 [.7]	1.25 [32]
PR1	1W	4W	500V	10KV	0.1Ω-100K	.600±.040 [15.2±1]	.225±.032 [5.72±.8]	.031 [.8][3]	1.25 [32]
PR2	2W	5W	750V	15KV	0.1Ω-200K	.875±.062 [22.2±1.6]	.312±.040 [7.92±1]	.039 [1][3]	1.375 [35][7]
PR5	5W	10W	800V	18KV	0.1Ω-220K	1.05±.062 [26.7± 1.6]	.350±.040 [8.89±1]	.039 [1]	1.375 [35]
PR10	10W	15W	1000V	25KV	0.1Ω-510K	1.72±.062[43.7±1.6]	.350±.040 [8.89±1]	.039 [1]	1.375 [35]

[1] Max voltage = √(PxR), not to exceed value listed. [2] Pulse voltage & energy capability is dependent on res.value, waveform, repetition rate, & environmental conditions (refer to R-42 for derating factors). [3] .040" (1mm) lead dia. is available on PR1 (specify PR1-18), .032" [.8mm] lead dia. is available on PR2 (specify PR2-20) [4]Lead length is for bulk packaging, taped parts may be shorter (consult taping dimensions). [5] Expanded range avail. [6]Allow .024" [.6mm] additonal for Opt. X or values <1Ω [7] Specify Opt. 56 for 1.5" [38.1] min. lead length, Opt. 70 for 2" [50.8] lead length [8]Multiply by 0.7 on Opt.X parts.

SURGE CAPABILITY



PERFORMANCE CHARACTERISTICS, Typ.

Derating, Wattage & Voltage	PR1/8-PR2: 1.25%/°C >70°C, PR5-PR10 & Opt. B: 0.8%/°C >25°C
Max.Induc*: Opt. X≤50Ω	0.2uH PR1/8X-PR1/2X,0.3uH PR1X-PR2X, 0.7uH PR5X-PR10X
Max.Induc*: Opt. X>50Ω	0.37uH PR1/8X-PR1/2X, 0.6uH PR1X-PR2X, 1.4uH PR5X-PR10X
Short-time Overload	±0.5%
Temperature Cycling	±0.5%
TCR (20 & 50ppm avail.)	±100ppm/°C(<0.2Ω=200ppm)
Moisture Resistance	±1%
Shock and Vibration	±0.2%
Effect of Soldering	±0.2%
Voltage Coefficient	±0.005%/V
Load Life	±0.5% Std, ±1% Opt.B
Operating Temp Range	-55 to +150°C, +275°C avail.
Dielectric Strength (1KV avail.)	500V (PR1/8 & PR1/4 =300V)

* specify Opt.75 for induc levels 50% that of Opt.X, or Opt.76 for 33% that of Opt.X

APPLICATION NOTE

Use chart above to select model to meet desired surge level. Pulse not to exceed peak V & j ratings (derate 30% for Opt.X), and average power during repetitive pulses nte rated W. A safety factor of 30% typ. is recommended for infrequent pulses, 50% typ. for repetitive pulses (refer to Note R42 for derating factors attributable to pulse width, rep. rate, temp., altitude, humidity). Verify by evaluating under worst-case conditions. Depending on specifics, PR series can often satisfy the surge requirements of UL-217, -268, -294, -497, -508, -913, -943, -991, -1459, -1971, ANSI/IEEE C62.41, CCITT (Rec. K17), Bellcore TR-NWT-001089 & TR-TSY-000057, CSA C22.2-225, IEC 664, IEC 801.5, IEEE587, Can.Doc. CS-03, FCC Part 68., etc. Consult factory for assistance.

P/N DESIGNATION:

PR1/2 ❒ - **102** - **K** **T** ❒ **W**

RCD Type

Options: X, S, F, ER, B (leave blank if std)

Resis. Code 1% tol: 3 signif. figures & multiplier,
e.g. R100=0.1Ω, 1R00=1Ω, 10R0=10Ω, 1000=100Ω, 1001=1K.
2%-10%: 2 signif.fig. & multiplier (R10=0.1Ω, 1R0=1Ω, 100=10Ω, 102=1K)

Tolerance: J=5% (standard), F=1%, G=2%, K=10%

Packaging: B = bulk, T = Tape & Reel

Optional TC: 20 =20ppm, 50= 50ppm (leave blank if standard)

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

RCD Components Inc, 520 E.Industrial Park Dr, Manchester, NH, USA 03109 rcdcomponents.com Tel: 603-669-0054 Fax: 603-669-5455 Email:sales@rcdcomponents.com