## Cement Power Resistors (RoHS Compliant)

### **PRM-RC Series**

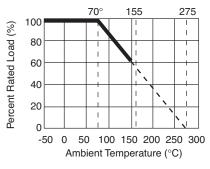
#### FEATURES

- 5% tolerance
- · Exceptionally small, sturdy, and reliable
- · Sealed with a special cement
- · Excellent moisture resistance
- · High temperature stability
- · Ceramic flame retardant package
- · Recommended wash method is alcohol

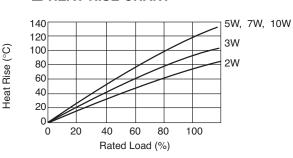
# Ph



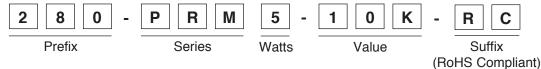
#### DERATING CHART



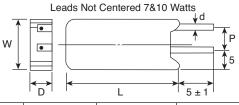
#### HEAT RISE CHART

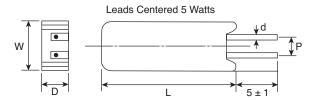


#### PART NUMBERING SYSTEM



#### ■ SERIES, WATTAGE, VALUE RANGE, AND DIMENSIONS





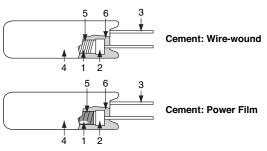
0	Watts (W)	Leads	Value Ra	anges (Ω)	Dimensions (mm)						
Series			Wirewound	Power Film	W ±1	D ±1	L ±1	ød ±0.05	P ±1		
PRM	5	Centered	0.1 ~ 47	48 ~ 100K	12.5	9	25	0.75	5		
PRM	7	Not Centered	0.1 ~ 680	681 ~ 200K	12.5	9	38	0.75	5		
PRM	10	Not Centered	0.1 ~ 910	911 ~ 200K	12.5	9	50	0.75	5		

#### **STANDARD STOCKED VALUES** $(\Omega)$ All standard E-24 values not listed are available special order.

0.1	0.3	0.51	1.0	3.0	6.8	15	33	56	68	75	100	150	200	300	330	470	680	1K	2K	4.7K	10K
0.22	0.47	0.68	2.2	4.7	10	20	47														

#### ■ CONSTRUCTION

No.	Subpart Name	Material	Material Generic Name
1	Body	Rod Type Ceramics	Al <sub>2</sub> O <sub>3</sub> , SiO <sub>2</sub>
2	End Cap	Tin plated iron surface	Tin: 5%, Iron: 95%
3	Lead	Annealed copper wire	Tin-Coated Copper wire
		(Electrosolder plated surface) Pb Free	
4	Ceramic Case	Ceramic	Al <sub>2</sub> O <sub>3</sub> , SiO <sub>2</sub>
5	Resistance wire	Ni-Cr Alloy	Ni-Cr Alloy
	Resistance Film	Metal Oxide Film	Metal Oxide Film
6	Filling Materials	Quartz mixed sand	SiO2



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## **PRM-RC Series**

#### **■** CHARACTERISTICS

Characteristics	Limits		Test Methods ( JIS C 5201-1 )					
Temperature coefficient	± 350 PPM / °C Max. <20Ω ± 400 PPM / °C		5.2 Natural resistance change per temp. degree centigrade.  R2-R1  x10° (PPM / °C)  R1(t2-t1)  R1: Resistance value at room temperature (t1)  R2: Resistance value at room temp. plus 100 °C (t2)					
Dielectric withstanding voltage	No evidence of flashov mechanical damage, a or insulation break dov	rcing	5.7 Resistors shall be clamped in the trough of a 90° metallic V-block and shall be tested at AC potential respectively for 60 +10/-0 secs.					
				change after continuous				
Temperature	Resistance change rat	e is	5 cycles for duty shown below:  Step Temperature Time					
cycling	± (2% + 0.05Ω) Max. v		1	-55 °C ± 3 °C	30 mins			
cyclinig	evidence of mechanica	<u>-</u>	2	Room temp.	10 ~ 15 mins			
	evidence of meditarile	ar damago	3	+155 °C ± 2 °C	30 mins			
			4	Room temp.	10 ~ 15 mins			
Short time overload	Resistance change rat $\pm (5\% + 0.05\Omega)$ Max. v evidence of mechanica	vith no	5.5 Permanent resistance change after the application of a potential of 2.5 times RCWV for 5 seconds					
	Resistance value	Δ R/R	7.9 Resistance change after 1,000 hours operating at RCWV with duty cycle of					
<u> </u>	Wire-wound	± 5%						
Load life in	Power film: <100KΩ	± 5%	1 0	(1.5 hours "on", 0.5 hour "off") in a humidity test				
humidity	>100ΚΩ	± 10%	chamber controlled at 40 °C $\pm$ 2 °C and 90 to 95 % relative humidity					
	Resistance value	∆ <b>R/R</b>	7.10 Permaner					
Load life	Wire-wound	± 5%	1,000 hours operating at RCWV with duty cycle					
	Power film: <100KΩ	± 5%	of (1.5 hours "c	on", 0.5 hour "off")				
	>100ΚΩ	± 10%	at 70 °C ±2 °C					
Terminal strength	No evidence of mecha damage	nical	6.1 Direct load: Resistance to a 2.5 kgs direct load for 10 secs. in the direction of the longitudinal axis of the terminal leads Twist test: Terminal leads shall be bent through 90 ° at a point of about 6mm from the body of the resistor and shall be rotated through 360° about the original axis of the bent terminal in alternating direction for a total of 3 rotations					
	Resistance change rat	e is	6.4 Permanent resistance change when leads					
Resistance to	± (1% + 0.05Ω) Max. v	vith no	immersed to 3.2 to 4.8 mm from the body in					
soldering heat evidence of mechanical damage			350 °C ± 10 °C solder for 3 ± 0.5 secs.					
Solderability	95 % coverage Min.		6.5 The area covered with a new , smooth clean , shiny and continuous surface free from concentrated pinholes.  Test temp. of solder : 245 °C ± 3 °C  Dwell time in solder : 2 ~ 3 seconds					

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FW10A33R0JA 25J39K 25J5R0-B 25W1D0 272-303-JBW 280-PRM5-150-RC CP0005270R0JE1491 CPCC0510R00JE32

CPCC051R000JB31 CPW052K500JE143 CPW05700R0JE143 C1010RJL CA000210R00JE14 VPR5F1500 RS02B887R0FE73

RWR74SR604FRB12 RWR84S1001FRB12 RWR84S20R0FSBSL RWR89S6190FSB12 CPW055R000JB143 ULW5-39R0JT075 W31-R047JA1 VP25K-120 VC3D900 ULW5-68RJT075 65888-3R3 CPW151K500JE313 RWR80N3400FSB12 RWR81S1000FRB12

RWR81S1000FSB12 RWR89S6R81FRB12 RWR89N30R1FRB12 RWR81S4R99FPB12 RWR74S4R02FRRSL