CEMENT FIXED RESISTOR

Features

- Self extinguishing
- Excellent flame and moisture resistance
- Extremely small sturdy and mechanically safe
- Non-inductive types available for all Royal Ohm Cement Types
- Too low or too high ohmic values on Wire-wound & Power Film type can be supplied on a case to case basis

Ordering Procedure: (Ex.: PRW 5W, 5%, 100Ω, B/B)

P	R	W	0	5	W	J	P	1	0	1	B	0	0

Resistor Type:
PRW0 = PRW; PRWA = PRWA;
PRWC = PRWC; PRM0 = PRM;
PRMA = PRMA; PRMB = PRMB;
PRS0 = PRS; PRVA = PRVA;
PRVB = PRVB; PZ1A = PRZA-1;
PZ2A = PRZA-2; PZ3A = PRZA-3;
PRZC = PRZC; PRZD = PRZD;
PRT0 = PRT; PRU0=PRU;

Wattage:
2W = 2W
3W = 3W
5W = 5W
7W = 7W
AW = 10W
FW = 15W
20 = 20W
25 = 25W
30 = 30W
40 = 40W

Resistance Value:
E-24 series: the 1st digit to denote production type of the product:
W=Wire wound type
P=Power film type
The 2nd & 3rd digits are for the significant figures of the resistance and the 4th digit denotes number of zeros following.

Decimal point is expressed by:
"J"- 0.1, "K"- 0.01, "L"- 0.001
Ex. 4Ω7 ~ W47J

Tolerance:
J = ±5%,
K = ±10%

Packing Type:
B =Bulk / Box

Packing Qty:
0 = for Bulk / Box packing

Special Feature:
0 = Standard product
I = Non-Inductive

Performance Specifications

Temperature coefficient	< 20Ω: ±400PPM/°C; ≥ 20Ω: ±350PPM/°C
Short-time overload	ΔR/R ≤ ±(5.0% + 0.05Ω), with no evidence of mechanical damage.
Dielectric withstanding voltage	No evidence of flashover, mechanical damage, arcing or insulation breakdown.
Terminal strength	No evidence of mechanical damage.
Solderability	Min. 95% coverage
Temperature cycling	ΔR/R ≤ ±(2.0% + 0.05Ω), with no evidence of mechanical damage.
Humidity (Steady State)	ΔR/R ≤ ±(5.0% + 0.05Ω), with no evidence of mechanical damage.
Load life in humidity	For Wire-wound range, the ΔR/R is ±5%
	For Power film range, <100KΩ, the ΔR/R is ±5%
	For Power film range, ≥100KΩ, the ΔR/R is ±10%
Load life	For Wire-wound range, the ΔR/R is ±5%
	For Power film range, <100KΩ, the ΔR/R is ±5%
	For Power film range, ≥100KΩ, the ΔR/R is ±10%
Resistance to soldering heat	ΔR/R ±(1.0% + 0.05Ω), with no evidence of mechanical damage.

** For complete details, please see Page 69.*

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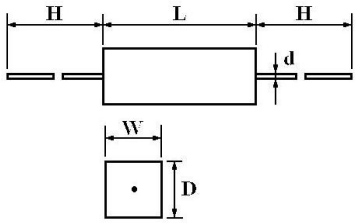
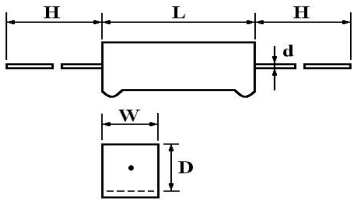
(1) PRW Type



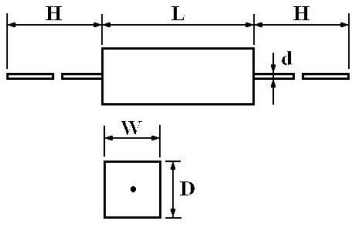
Part No.	Style	Dimension (mm)					Resistance Range	
		W ± 1	D ± 1	L ± 1	d +0.02 - 0.05	H ± 5	Wire-wound	Power Film
PRW02W	PRW – 2W	7	7	18	0.8	28	0.1Ω ~ 27Ω	28Ω ~ 33KΩ
PRW03W	PRW – 3W	8	8	22	0.8	32	0.1Ω ~ 39Ω	40Ω ~ 56KΩ
PRW05W	PRW – 5W	10	9	22	0.8	35	0.1Ω ~ 47Ω	48Ω ~ 100KΩ
PRW07W	PRW – 7W	10	9	35	0.8	35	0.1Ω ~ 680Ω	681Ω ~ 200KΩ
PRW0AW	PRW – 10W	10	9	49	0.8	35	0.1Ω ~ 910Ω	911Ω ~ 200KΩ
PRW0FW	PRW – 15W	12.5	11.5	49	0.8	35	1Ω ~ 1KΩ	
PRW020	PRW – 20W	14.5	13.5	60	0.8	35	2Ω ~ 1.2KΩ	
PRW025	PRW – 25W	14.5	13.5	64	0.8	35	2Ω ~ 1.2KΩ	

(1-1) PRWA Type



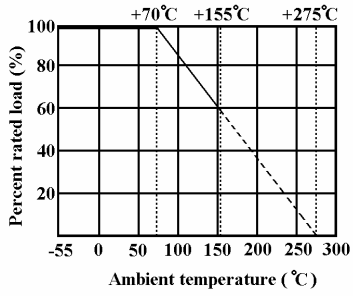
Part No.	Style	Dimension (mm)					Resistance Range	
		W ± 1	D ± 1	L ± 1	d +0.02 - 0.05	H ± 5	Wire-wound	Power Film
PRWA2W	PRWA - 2W	7	7	18	0.8	28	0.1Ω ~ 27Ω	28Ω ~ 33KΩ
PRWA5W	PRWA - 5W	10	9	22	0.8	35	0.1Ω ~ 47Ω	48Ω ~ 100KΩ
PRWA7W	PRWA - 7W	10	9	35	0.8	35	0.1Ω ~ 680Ω	681Ω ~ 200KΩ
PRWAAW	PRWA -10W	10	9	49	0.8	35	0.1Ω ~ 910Ω	911Ω ~ 200KΩ

(1-2) PRWC Type

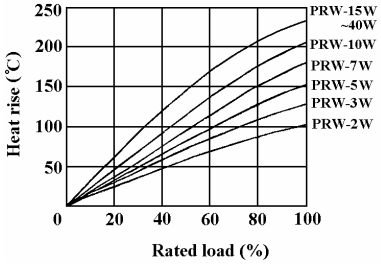


Part No.	Style	Dimension (mm)					Resistance Range	
		W ± 1	D ± 1	L ± 1	d +0.02 - 0.05	H ± 5	Wire-wound	Power Film
PRWC3W	PRWC - 3W	6	6	20	0.8	28	1Ω ~ 27Ω	28Ω ~ 33KΩ
PRWC5W	PRWC - 5W	6	6	25	0.8	35	1Ω ~ 200Ω	201Ω ~ 100KΩ
PRWC7W	PRWC - 7W	9	9	25	0.8	35	1Ω ~ 200Ω	201Ω ~ 100KΩ

Derating Curve



Heat Rise Chart



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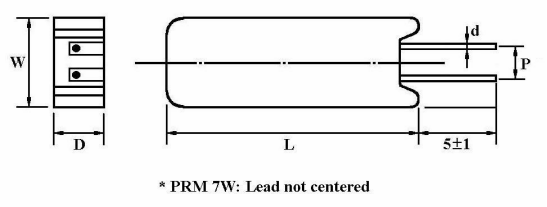
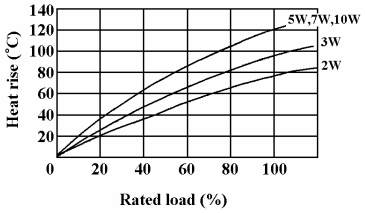
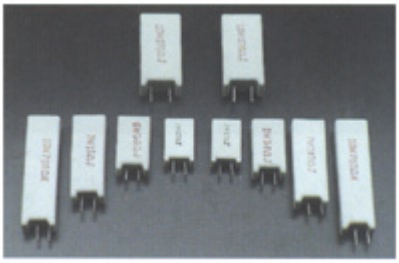
(2) PRM Type



* PRM 7W: Lead not centered

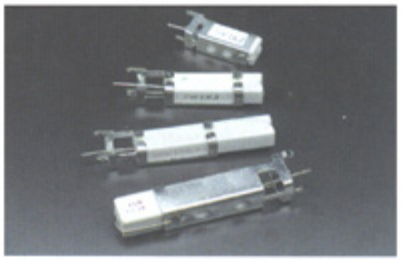
Heat Rise Chart



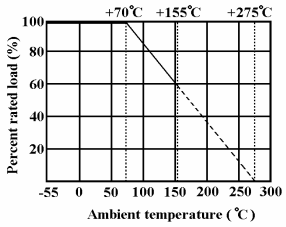


Part No.	Style	Dimension (mm)					Resistance Range	
		W ± 1	D ± 1	L ± 1	d +0.02 - 0.05	P ± 1	Wire-wound	Power Film
PRM02W	PRM-2W	11.5	7.5	20	0.8	5	0.1Ω-27Ω	28Ω -33KΩ
PRM03W	PRM-3W	12.5	8.5	25	0.8	5	0.1Ω –39Ω	40Ω -56KΩ
PRM05W	PRM-5W	12.5	9	25	0.8	5	0.1Ω -47Ω	48Ω -100KΩ
PRM07W	PRM-7W	12.5	9	38	0.8	5	0.1Ω -680Ω	681Ω -200KΩ
PRM0AW	PRM-10W	12.5	9	50	0.8	5	0.1Ω -910Ω	911Ω -200KΩ
PRMA5W	PRMA-5W	12.5	9	25	0.8	7.5	0.1Ω -47Ω	48Ω-100KΩ
PRMAAW	PRMA-10W	16	12	35	0.8	7.5	0.1Ω –560Ω	561Ω -100KΩ
PRMB7W	PRMB-7W	12.5	9	38	0.8	5	0.1Ω -680Ω	681Ω -200KΩ

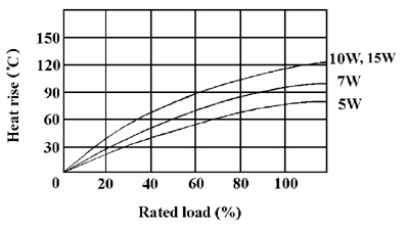
(3) PRS Type



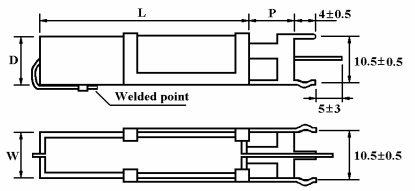
Derating Curve



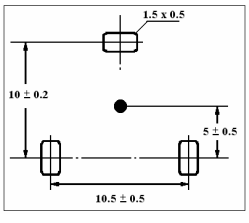
Heat Rise Chart



Part No.	Style	Dimension (mm) ± 1				Resistance Range	
		W	D	L	P	Wire-wound	Power Film
PRS05W	PRS-5W	10	9	22	5	0.1Ω -47Ω	48Ω -100KΩ
PRS07W	PRS-7W	10	9	35	10	0.1Ω -680Ω	681Ω -200KΩ
PRS0AW	PRS-10W	10	9	49	10	0.1Ω -910Ω	911Ω -200KΩ
PRS0FW	PRS-15W	12.5	11.5	49	11	1Ω -1KΩ	



Recommendable hole:



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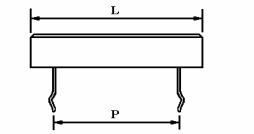
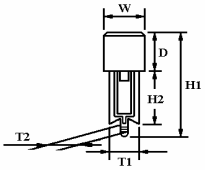
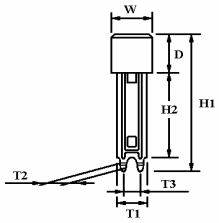
(4) PRZA-1, PRZA-2, PRZA-3, PRZC, PRZD Type

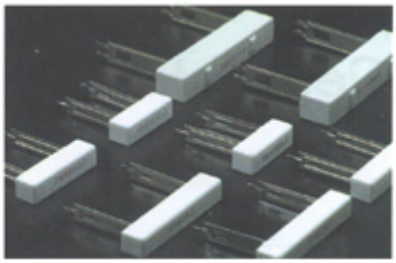
PRZA-1, PRZA-2, PRZA-3, PRZC, PRZD **PRZA-1, PRZA-2, PRZA-3** **PRZC, PRZD**



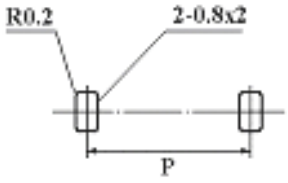
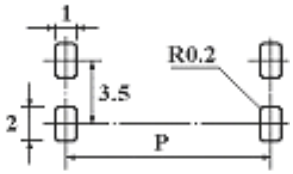
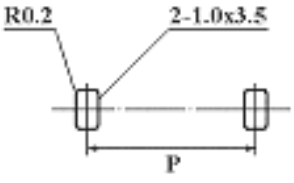
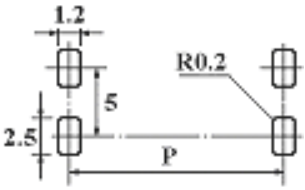
* Physical Specifications







Recommendable Hole

Power Rating	Dimension (mm)		P
	PRZA-1, PRZA-2, PRZA-3	PRZC, PRZD	
5W			9.5 / 15
7W			22
10W			32 / 35
15W			32
20W			45

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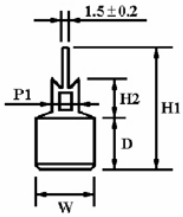
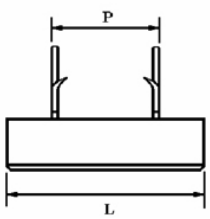
Dimension

Part No.	Power Rating	Type	Dimension (mm)									Resistance Range	
			W ± 1	D ± 1	L	P ± 1.5	T_1 ± 1	T_2 ±0.2	T_3 ±0.5	H_1 +2 -1	H_2 +2 -1	Wire-wound	Power Film
PZ1A5W	5W	PRZA-1	10	9	25 ± 1	9.5	7	1.6		24	10	0.1Ω - 120Ω	121Ω - 56KΩ
					27 ± 1	15							
PZ2A5W		PRZA-2	10	9	27 ± 1	15	7	1.6		39	25		
PZ3A5W		PRZA-3	10	9	27 ± 1	15	7	1.3		39	25		
PRZC5W		PRZC	10	9	27 ± 1	*15	7	1.5	3.5	36	22		
PRZD5W		PRZD	10	9	27 ± 1	15	7	1.5	3.5	24	10		
PZ1A7W	7W	PRZA-1	10	9	35 ± 1	22	7	1.6		24	10	0.1Ω - 560Ω	561Ω - 100KΩ
PZ2A7W		PRZA-2	10	9	35 ± 1	22	7	1.6		39	25		
PRZC7W		PRZC	10	9	35 ± 1	*22	7	1.5	3.5	36	22		
PRZD7W		PRZD	10	9	35 ± 1	22	7	1.5	3.5	24	10		
PZ1AAW	10W	PRZA-1	10	9	48 ± 1.5	32 / 35	7	1.6		24	10	1Ω - 820Ω	821Ω - 100KΩ
PZ2AAW		PRZA-2	10	9	48 ± 1.5	32 / 35	7	1.6		39	25		
PRZCAW		PRZC	10	9	48 ± 1.5	*32 / *35	7	1.5	3.5	36	22		
PRZDAW		PRZD	10	9	48 ± 1.5	32 / 35	7	1.5	3.5	24	10		
PZ1AFW	15W	PRZA-1	12.5	11.5	48 ± 1.5	32	10	3		35	15	1Ω - 1KΩ	
PZ2AFW		PRZA-2	12.5	11.5	48 ± 1.5	32	10	3		47	30		
PRZCFW		PRZC	12.5	11.5	48 ± 1.5	*32	10	2	5	47	30		
PZ1A20	20W	PRZA-1	12.5	13.5	63 ± 1.5	45	10	3		35	15	2Ω - 1.2KΩ	
PZ2A20		PRZA-2	12.5	13.5	63 ± 1.5	45	10	3		47	30		
PRZC20		PRZC	12.5	13.5	63 ± 1.5	*45	10	2	5	47	30		

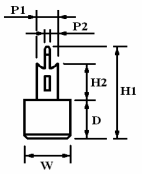
***PRZC type Pitch Tolerance = +2 ~ +6**

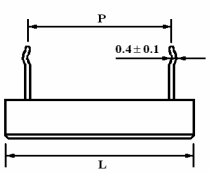
(5) PRVA Type



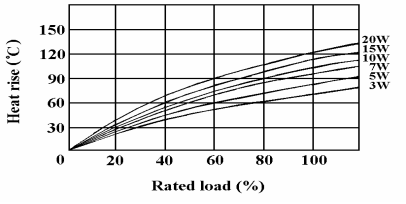


(6) PRVB Type





Heat Rise Chart (PRVA / PRVB)



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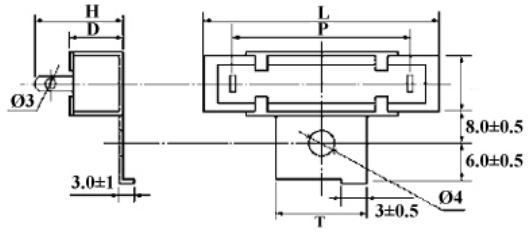
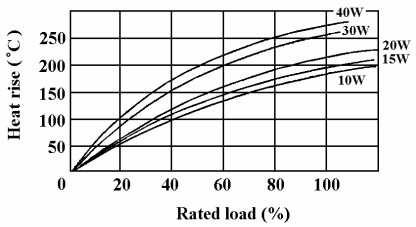
Part No.	Style PRVA+PRVB	Dimension (mm) ± 1								Resistance Range	
		W	D	L	P	P_1	H_1	H_2	*P_2 ± 0.2	Wire-wound	Power Film
PRVA3W/ PRVB3W	3W	10.0	9.0	22	9.5	5	25.0	10.5	1.3	0.1Ω ~ 47Ω	48Ω ~33KΩ
PRVA5W/ PRVB5W	5W	10.0	9.0	27 / 25	15 / 9.5	5	25.0	10.5	1.3	0.1Ω ~ 120Ω	121Ω ~56KΩ
PRVA7W/ PRVB7W	7W	10.0	9.0	35	22	5	25.0	10.5	1.3	0.1Ω ~ 560Ω	561Ω ~100KΩ
PRVAAW/ PRVBAW	10W	10.0	9.0	48	35 / 32	5	25.0	10.5	1.3	1Ω ~ 820Ω	821Ω ~100KΩ
PRVAFW/ PRVBFW	15W	12.5	11.5	48	32	5	27.5	10.5	1.5	1Ω ~ 1KΩ	
PRVA20/ PRVB20	20W	12.5	13.5	63	45	5	29.5	10.5	1.5	1Ω ~ 1.2KΩ	

*P_2 for PRVB

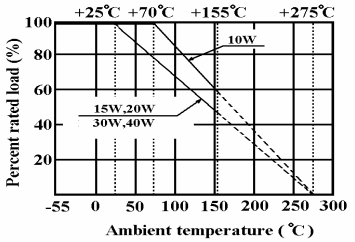
(7) PRT Type



Heat Rise Chart (PRT)

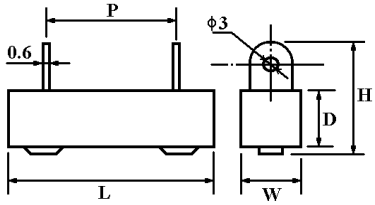


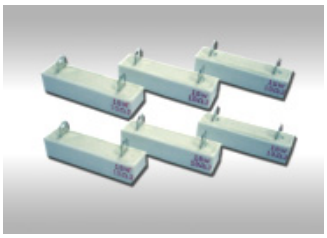
Derating Curve



Part No.	Style	Power Rating	Dimension (mm) ± 1						Resistance Range	
			W	D	L	P	H	T	Wire-wound	Power Film
PRT0AW	PRT - 10W	10W	10	9	48	32	18	12	1Ω ~ 820Ω	821Ω ~ 100KΩ
PRT0FW	PRT - 15W	15W	12.5	11.5	48	32	21	12	1Ω ~ 1KΩ	
PRT020	PRT - 20W	20W	12.5	13.5	63	45	21	12	2Ω ~ 1.2KΩ	
PRT030	PRT - 30W	30W	19	19	75	56	32 Max	18	3Ω ~ 1.5KΩ	
PRT040	PRT - 40W	40W	19	19	90	70	32 Max	18	6Ω ~ 1.5KΩ	

(8) PRU Type





Part No.	Style	Power Rating	Dimension (mm) ± 1					Resistance Range	
			W	D	L	P	H	Wire-wound	Power Film
PRU0AW	PRU - 10W	10W	10.0	9	48	32	18	1Ω ~ 820Ω	821Ω ~ 100KΩ
PRU0FW	PRU - 15W	15W	12.5	11.5	48	32	21	1Ω ~ 1KΩ	
PRU020	PRU - 20W	20W	12.5	13.5	63	45	21	2Ω ~ 1.2KΩ	
PRU030	PRU - 30W	30W	19.0	19	75	56	32 Max	3Ω ~ 1.5KΩ	
PRU040	PRU - 40W	40W	19.0	19	90	70	32 Max	6Ω ~ 1.5KΩ	