CEMENT FIXED RESISTORS

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;
PDM0 = PDM; PRWI = PRWI

Wattage:
2W = 2W
3W = 3W
4W = 4W
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:
"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

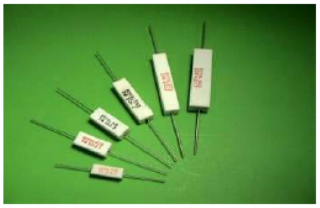
** More explanation on part no, please see details on pages 79-80.*

Performance Specifications

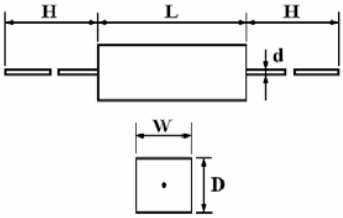
Temperature coefficient	< 20Ω: ±400PPM/°C; ≥ 20Ω: ±350PPM/°C
Short-time overload	ΔR/R ≤ ±(5.0% + 0.05Ω), with no evidence of mechanical damage.
Dielectric withstanding voltage	No evidence of flashover, mechanical damage, arcing or insulation breakdown.
Terminal strength	No evidence of mechanical damage.
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.

**More details, please see pages 77-78.*

CEMENT FIXED RESISTORS

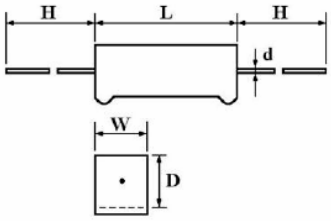


(1) PRW Type



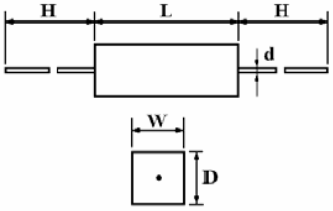
Part No.	Style	Dimension (mm)					Resistance Range	
		W ± 1	D ± 1	L ± 1	d ± 0.05	H ± 5	Wire-wound	Power Film
PRW01W	PRW – 1W	6	6	14	0.60	25	1Ω ~ 27Ω	28Ω ~ 33KΩ
PRW02W	PRW – 2W	7	7	18	0.75	28	0.1Ω ~ 27Ω	28Ω ~ 33KΩ
PRW03W	PRW – 3W	8	8	22	0.75	32	0.1Ω ~ 39Ω	40Ω ~ 56KΩ
PRW05W	PRW – 5W	10	9	22	0.75	35	0.1Ω ~ 47Ω	48Ω ~ 100KΩ
PRW07W	PRW – 7W	10	9	35	0.75	35	0.1Ω ~ 680Ω	681Ω ~ 200KΩ
PRW0AW	PRW – 10W	10	9	49	0.75	35	0.1Ω ~ 910Ω	911Ω ~ 200KΩ
PRW0FW	PRW – 15W	12.5	11.5	49	0.75	35	1Ω ~ 1KΩ	
PRW020	PRW – 20W	14.5	13.5	60	0.75	35	2Ω ~ 1.2KΩ	
PRW025	PRW – 25W	14.5	13.5	64	0.75	35	2Ω ~ 1.2KΩ	

(1-1) PRWA Type



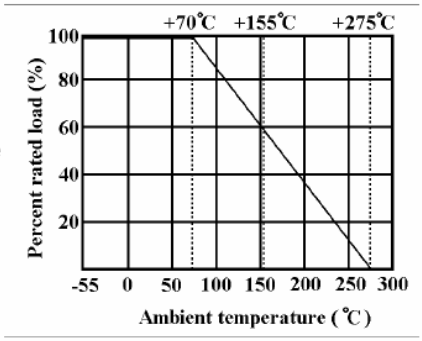
Part No.	Style	Dimension (mm)					Resistance Range	
		W ± 1	D ± 1	L ± 1	d ± 0.05	H ± 5	Wire-wound	Power Film
PRWA2W	PRWA - 2W	7	7	18	0.75	28	0.1Ω ~ 27Ω	28Ω ~ 33KΩ
PRWA5W	PRWA - 5W	10	9	22	0.75	35	0.1Ω ~ 47Ω	48Ω ~ 100KΩ
PRWA7W	PRWA - 7W	10	9	35	0.75	35	0.1Ω ~ 680Ω	681Ω ~ 200KΩ
PRWAAW	PRWA -10W	10	9	49	0.75	35	0.1Ω ~ 910Ω	911Ω ~ 200KΩ

(1-2) PRWC Type

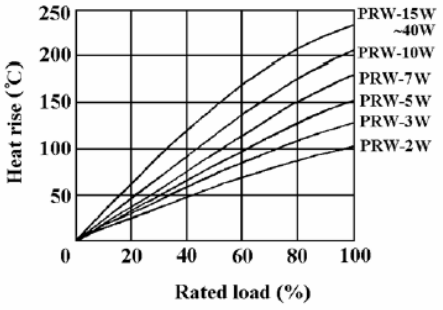


Part No.	Style	Dimension (mm)					Resistance Range	
		W ± 1	D ± 1	L ± 1	d ± 0.05	H ± 5	Wire-wound	Power Film
PRWC1W	PRWC - 1W	5.5	5.5	12	0.60	25	1Ω ~ 27Ω	28Ω ~ 33KΩ
PRWC3W	PRWC - 3W	6	6	20	0.75	28	1Ω ~ 27Ω	28Ω ~ 33KΩ
PRWC5W	PRWC - 5W	6	6	25	0.75	35	1Ω ~ 200Ω	201Ω ~ 100KΩ
PRWC7W	PRWC - 7W	9	9	25	0.75	35	1Ω ~ 200Ω	201Ω ~ 100KΩ

Derating Curve



Heat Rise Chart



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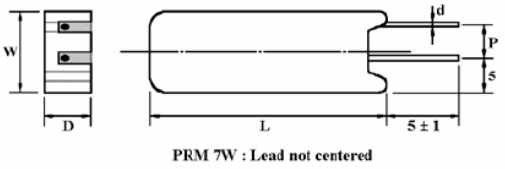
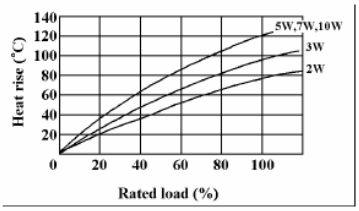
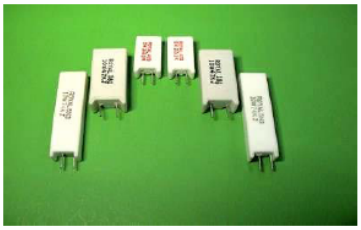
(2) PRM Type



PRM 7W : Lead not centered

Heat Rise Chart

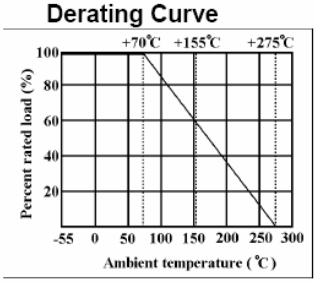




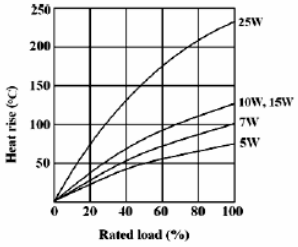
Part No.	Style	Dimension (mm)					Resistance Range	
		W ± 1	D ± 1	L ± 1	d ± 0.05	P ± 1	Wire-wound	Power Film
PRM02W	PRM-2W	11.5	7.5	20	0.75	5	0.1Ω ~ 27Ω	28Ω ~ 33KΩ
PRM03W	PRM-3W	12.5	8.5	25	0.75	5	0.1Ω ~ 39Ω	40Ω ~ 56KΩ
PRM05W	PRM-5W	12.5	9	25	0.75	5	0.1Ω ~ 47Ω	48Ω ~ 100KΩ
PRM07W	PRM-7W	12.5	9	38	0.75	5	0.1Ω ~ 680Ω	681Ω ~ 200KΩ
PRM0AW	PRM-10W	12.5	9	50	0.75	5	0.1Ω ~ 910Ω	911Ω ~ 200KΩ
PRMA5W	PRMA-5W	12.5	9	25	0.75	7.5	0.1Ω ~ 47Ω	48Ω ~ 100KΩ
PRMAAW	PRMA-10W	16	12	35	0.75	7.5	0.1Ω ~ 560Ω	561Ω ~ 100KΩ
PRMB7W	PRMB-7W	12.5	9	38	0.75	5	0.1Ω ~ 680Ω	681Ω ~ 200KΩ

(3) PRS Type

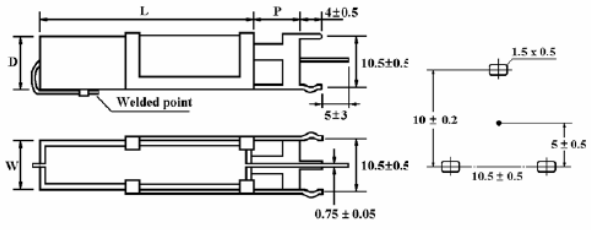
Derating Curve



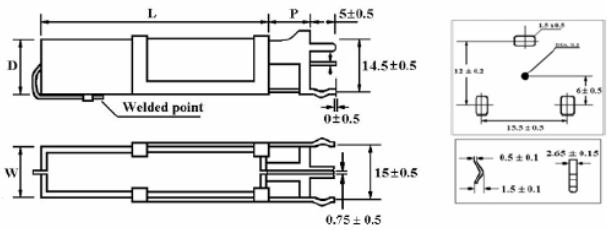
Heat Rise Chart



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	
PRS020	PRS-20W	14.5	13.5	60	10	1Ω ~ 3.4KΩ	
PRS025	PRS-25W	14.5	13.5	64	10	1Ω ~ 3.4KΩ	



***PRS 5W, 7W, 10W, 15W



***PRS 20W, 25W

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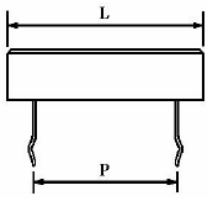
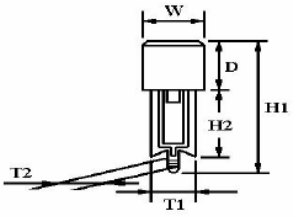
(4) PRZA-1, PRZA-2, PRZA-3, PRZC, PRZD Type

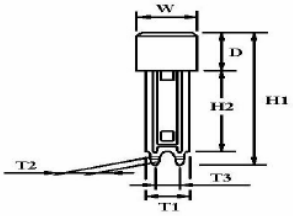
PRZA-1, PRZA-2, PRZA-3, PRZC, PRZD

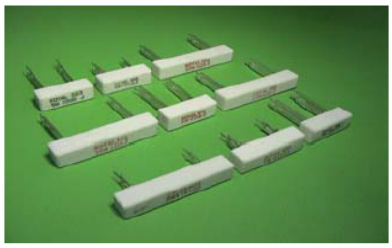


PRZA-1, PRZA-2, PRZA-3

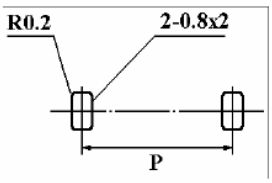
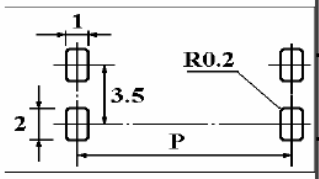
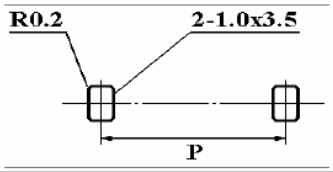
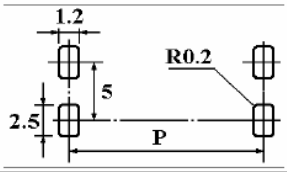


PRZC, PRZD





Recommendable Hole

Power Rating at 70°C	Dimension (mm)		P
	PRZA-1, PRZA-2, PRZA-3	PRZC, PRZD	
5W			9.5 / 15
7W			22
10W			32 / 35
15W			32
20W			45

RoHS

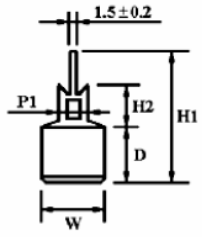
CEMENT FIXED RESISTORS

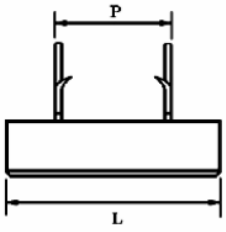
Dimension (mm)

Part No.	Power Rating at 70°C	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 27 ± 1	9.5 15	7	1.6		24	10	0.1Ω ~ 120Ω	121Ω ~ 56KΩ
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		

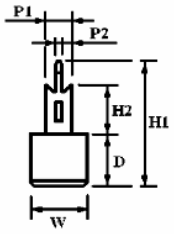
*PRZC Type Pitch Tolerance = +2 ~ +6

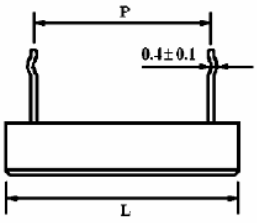
(5) PRVA Type



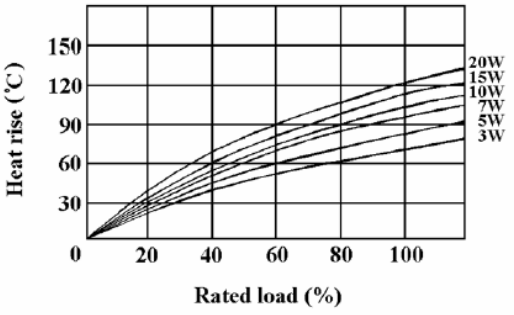


(6) PRVB Type





Heat Rise Chart (PRVA / PRVB)

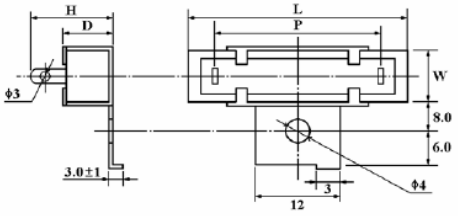


CEMENT FIXED RESISTORS

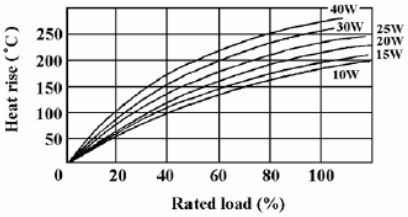
Part No.	Power Rating at 70°C	Dimension (mm) ± 1								Resistance Range	
		W	D	L	P	P_1	H_1	H_2	*P_2 ± 0.2	Wire-wound	Power Film
PRVA3W / PRVB3W	3W	10.0	9.0	22	9.5	5	25.0	10.5	1.3	0.1Ω ~ 47Ω	48Ω ~ 33KΩ
PRVA5W / PRVB5W	5W	10.0	9.0	27 / 25	15 / 9.5	5	25.0	10.5	1.3	0.1Ω ~ 120Ω	121Ω ~ 56KΩ
PRVA7W / PRVB7W	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

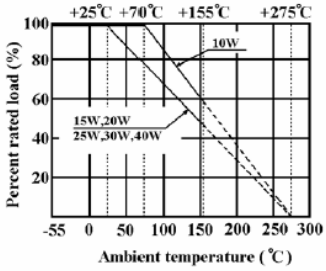
(7) PRT Type



Heat Rise Chart (PRT)

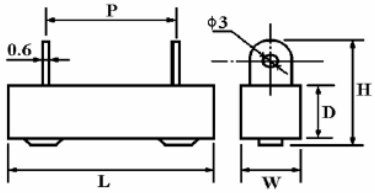


Derating Curve



Part No.	Style	Power Rating at 70°C	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

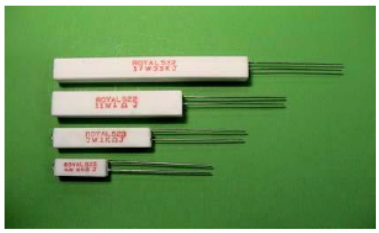


Part No.	Style	Power Rating at 70°C	Dimension (mm) ± 1					Resistance Range	
			W	D	L	P	H	Wire-Wound	Power Film
PRU0AW	PRU - 10W	10W	10	9	48	32	18	1Ω ~ 820Ω	821Ω ~ 100KΩ
PRU0FW	PRU - 15W	15W	12.5	11.5	48	32	21	1Ω ~ 1KΩ	
PRU020	PRU - 20W	20W	12.5	13.5	63	45	21	2Ω ~ 1.2KΩ	
PRU030	PRU - 30W	30W	19	19	75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

RoHS

CEMENT FIXED RESISTORS

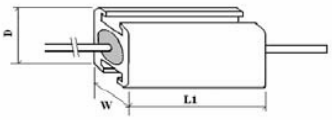
Features



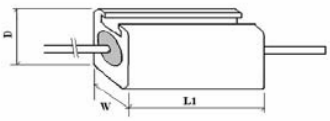
- Vertical or Axial type
- Available in 4W, 7W, 11W & 17W
- Can withstand high overload current
- Non flammable
- Extremely small, sturdy and mechanically safe
- Special solvent resistance

PRWI SERIES

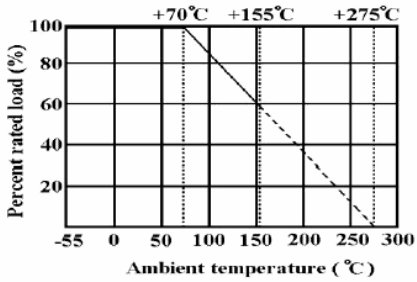
11W, 17W



4W, 7W



Derating curve:



Dimension (mm)

Type	Power Rating at 70°C	W ± 1	D ± 1	L1 ± 1	H1 ± 5	d ± 0.05
PRWI 4W	4W	7	8	20	56	0.75
PRWI 7W	7W	7	8	38	70	0.75
PRWI 11W	11W	9	10	50	85	0.75
PRWI 17W	17W	9	10	75	110	0.75

Performance Specifications

Temperature coefficient	± 400PPM/°C depends on resistance value.
Short-time overload	± (5.0% + 0.05Ω) Max, with no evidence of mechanical damage.
Dielectric withstanding voltage	No evidence of flashover, mechanical damage, arcing or insulation break down.
Terminal strength	No evidence of mechanical damage.
Solderability	Min.95% coverage
Load life in humidity	± (5.0% + 0.05Ω) Max, with no evidence of mechanical damage.
Load life	± (5.0% + 0.05Ω) Max, with no evidence of mechanical damage.
Resistance to solder heat	± (1.0% + 0.05Ω) Max, with no evidence of mechanical damage.

** More details, please see pages 77-78.*

***Ordering procedure is same as Cement Fixed Resistors (page 35)**