

## Fiberglass Cement Resistors

# Power Wirewound & Vertical Lead Type

## Normal & Miniature Style [ PSM Series ]



### INTRODUCTION

The PSM Series Resistors are wound on Fiberglass core. The materials used and the construction techniques ensure excellent flame resistance, arc resistance and moisture resistance as well as self-extinguishing capabilities. They will withstand the most rigorous loading test.

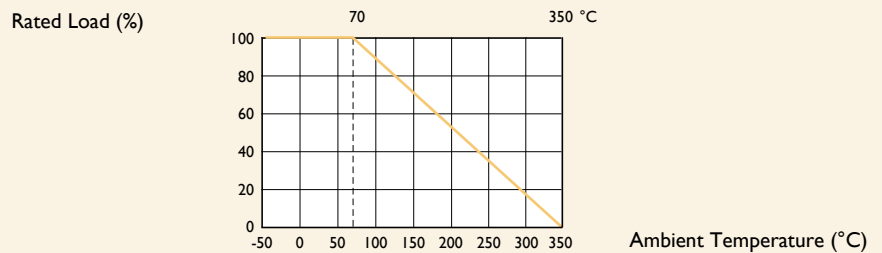
As resistors in radio and television receivers, hazardous conditions such as smoking and redheat can be completely prevented by the proper choice of power resistors.

### FEATURES

Power Rating	4W, 5W, 7W, 9W, 11W, 17W
Resistance Tolerance	±5%, ±10%
T.C.R	±10ppm/°C, ±40ppm/°C, 400±50ppm/°C

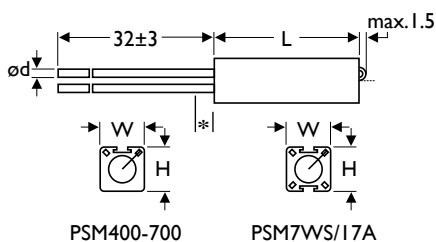
### DERATING CURVE

For resistors operated in ambient temperatures above 70°C, power rating must be derated in accordance with the curve below.



### DIMENSIONS

Unit: mm



\* 6mm, reduced solderability in this area

STYLE		DIMENSION			
Normal	Miniature	L	W	H	ød
PSM400	-	20±1.0	7.0±0.5	8.0±0.4	0.8±0.02
PSM500	-	25±1.0	7.0±0.5	8.0±0.4	0.8±0.02
-	PSM7WS	25±1.0	9.0±0.4	10.0±0.4	0.8±0.02
PSM700	-	38±1.0	7.0±0.5	8.0±0.4	0.8±0.02
PSM900	-	38±1.0	9.0±0.4	10.0±0.4	0.8±0.02
PSM11A	-	50±1.5	9.0±0.4	10.0±0.4	0.8±0.02
PSM17A	-	75±2.0	9.0±0.4	10.0±0.4	0.8±0.02

Note:

## ELECTRICAL CHARACTERISTICS

STYLE	PSM400	PSM500	PSM7WS	PSM700	PSM900	PSMI1A	PSMI7A
Power Rating at 70°C	4W	5W	7W		9W	11W	17W
Maximum working voltage	$\sqrt{P \times R}$						
Voltage Proof on Insulation	2000V						
Resistance Range	0.1Ω - 9.1KΩ	0.15Ω - 15KΩ		0.33Ω - 33KΩ		0.51Ω - 47KΩ	0.91Ω - 82KΩ
Operating Temp. Range	-55°C to +350°C						
Temperature Coefficient	±10ppm/°C, ±40ppm/°C, 400±50ppm/°C						

Note: Special value is available on request

## ENVIRONMENTAL CHARACTERISTICS

PERFORMANCE TEST	TEST METHOD		APPRAISE
Short Time Overload	IEC 60115-1 4.13	10 times rated power for 5 Sec.	±2.0%+0.05Ω
Voltage Proof on Insulation	IEC 60115-1 4.7	in V-block for 60 Sec., test voltage by type	By type
Temperature Coefficient	IEC 60115-1 4.8	-55°C to +155°C	By type
Insulation Resistance	IEC 60115-1 4.6	in V-block for 60 Sec.	>10,000MΩ
Solderability	IEC 60115-1 4.17	235±5°C for 3±0.5 Sec.	95% Min. coverage
Solvent Resistance of Marking	IEC 60115-1 4.30	IPA for 5±0.5 Min. with ultrasonic	No deterioration of coatings and markings
Robustness of Terminations	IEC 60115-1 4.16	Direct load for 10 Sec. in the direction of the terminal leads	≥50N
Periodic-pulse Overload	IEC 60115-1 4.39	4 times RCWV 10,000 cycles (1 Sec. on, 25 Sec. off)	±2.0%+0.05Ω
Damp Heat Steady State	IEC 60115-1 4.24	40±2°C, 90-95% RH for 56 days, loaded with 0.1 times RCWV	±2.0%+0.05Ω
Endurance at 70°C	IEC 60115-1 4.25	70±2°C at RCWV for 1,000 Hr. (1.5 Hr. on, 0.5 Hr. off)	±3.0%+0.05Ω
Temperature Cycling	IEC 60115-1 4.19	-55°C ⇄ Room Temp. ⇄ +155°C ⇄ Room Temp. (5 cycles)	±2.0%+0.05Ω
Resistance to Soldering Heat	IEC 60115-1 4.18	260±3°C for 10±1 Sec., immersed to a point 3±0.5mm from the body	±2.0%+0.05Ω

Note: RCWV(Rated Continuous Working Voltage) =  $\sqrt{\text{Power Rating} \times \text{Resistance Value}}$  or Max. working voltage listed above, whichever less.

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