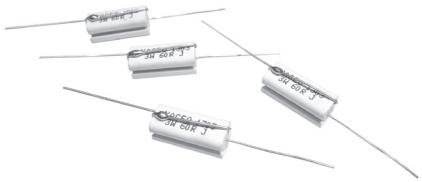
Fiberglass Cement Resistors

Circuit Breaker & Axial Lead Type

Normal Style [FSP Series]



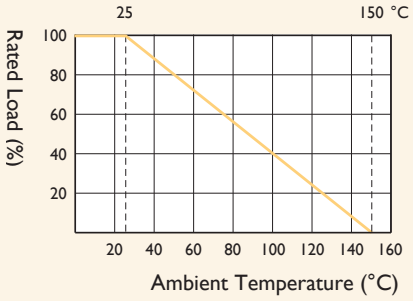
INTRODUCTION

The FSP Series Fiberglass Cement Resistors are wound on fibre glass core, have a special internal direct contact to virtually eliminate resistance changes caused by varying, often high temperatures. It offers a circuit-breaker function when overload is applied.

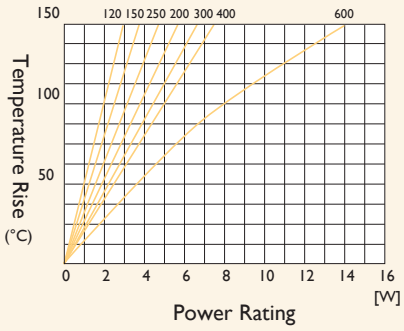
FEATURES

Power Rating	1.2W, 1.5W, 2W, 2.5W, 3W, 4W, 6W
Resistance Tolerance	±5%, ±10%
T.C.R.	-80~+500ppm/°C

DERATING CURVE

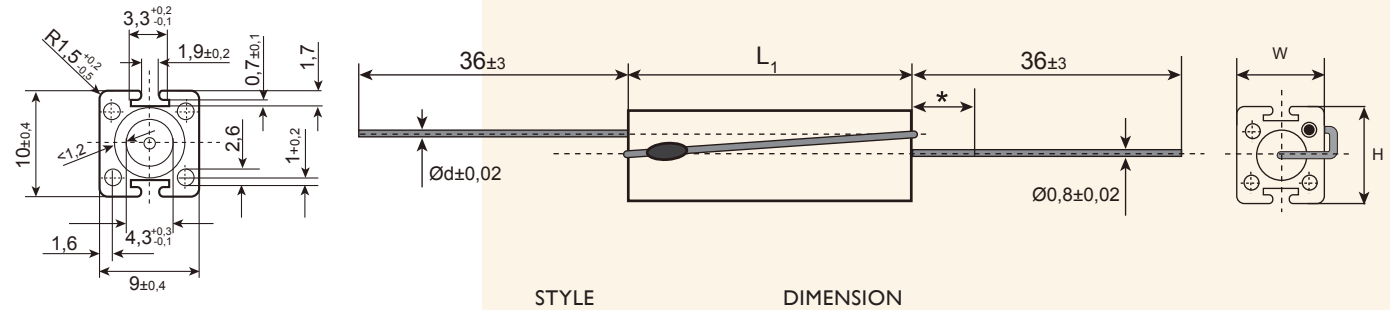


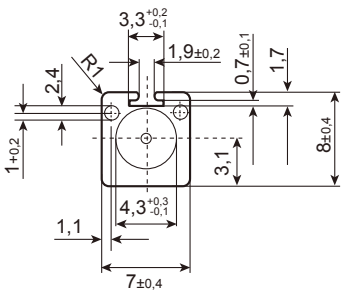
TEMPERATURE RISE



DIMENSIONS

Unit: mm





STYLE	DIMENSION			
Normal	L	W	H	ød
FSP120	20±1.0	7±0.5	8±0.3	0.6±0.02
FSP150	25±1.0	7±0.5	8±0.3	0.6±0.02
FSP250	38±1.0	7±0.5	8±0.3	0.8±0.02
FSP200	25±1.0	9±0.5	10±0.4	0.6±0.02
FSP300	38±1.0	9±0.5	10±0.4	0.8±0.02
FSP400	50±1.5	9±0.5	10±0.4	0.8±0.02
FSP600	75±2.0	9±0.5	10±0.4	0.8±0.02

Note:

ELECTRICAL CHARACTERISTICS

STYLE	FSP120	FSP150	FSP250	FSP200	FSP300	FSP400	FSP600
Power Rating at 25°C	2.5W	3W	4.5W	3.5W	5W	7W	11W
Power Rating at 70°C	1.2W	1.5W	2.5W	2W	3W	4W	6W
Maximum Working Voltage	$\sqrt{PxR}$						
Voltage Proof on Insulation	2000V						
Resistance Range	0.1Ω-9.1KΩ	0.15Ω-15KΩ	0.33Ω-33KΩ	0.15Ω-15KΩ	0.33Ω-33KΩ	0.51Ω-47KΩ	0.91Ω-82KΩ
Operating Temp. Range	-55°C to +150°C						
Temperature Coefficient	-80~500ppm/°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 as above table	No Breakdown
Temperature Coefficient	IEC 60115-1 4.8	-55°C to +150°C	By type
Insulation Resistance	IEC 60115-1 4.6	in V-block for 60 Sec.	>10,000M
Solderability	IEC 60115-1 4.17	245±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 (or Umax., Whichever less) for 1,000 Hr. (1.5Hr.on, 0.5Hr. 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	±0.2%+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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