

Melf Carbon Film Resistors

High Power Type

Ultra Miniature Style [MCP Series]



INTRODUCTION

The MCP Series Melf Carbon Film High Power Resistors are manufactured by coating a homogeneous film of pure carbon on high grade ceramic rods. SMD enabled structure and high power in small packages. The resistors are coated with layers of lacquer.

FEATURES

Power Rating	1W, 2W
Resistance Tolerance	±2%, ±5%
T.C.R.	see Table I

DERATING CURVE

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

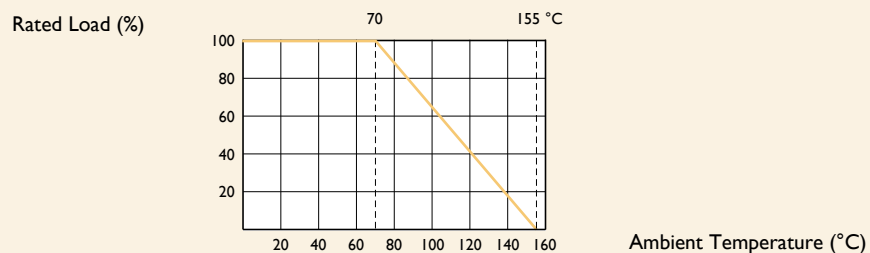
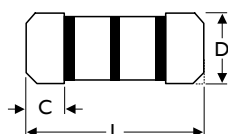


TABLE I TEMPERATURE COEFFICIENT

STYLE	TEMP. COEFFICIENT ppm/°C		
	under 10KΩ	11KΩ -150KΩ	160KΩ -1MΩ
MCP100, MCP200	-350~0	-600~0	-1,000~0

DIMENSIONS

Unit: mm



STYLE	DIMENSION		
Ultra Miniature	L	D	C Min.
MCP100	5.9±0.2	2.2±0.1	0.5
MCP200	8.5±1.0	3.0±0.2	0.5

Note:

ELECTRICAL CHARACTERISTICS

STYLE	MCP100	MCP200
Power Rating at 70°C	1W	2W
Maximum Working Voltage	300V	350V
Maximum Overload Voltage	600V	700V
Voltage Proof on Insulation	500V	
Resistance Range	1Ω - 1MΩ & 0Ω for E24 & E96 series value	
Operating Temp. Range	-55°C to +155°C	
Temperature Coefficient	See Table I	

Note: Special value is available on request

ENVIRONMENTAL CHARACTERISTICS

PERFORMANCE TEST	TEST METHOD		APPRAISE
Short Time Overload	IEC 60115-1 4.13	2.5 times RCWV for 5 Sec.	±1.0%+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
Periodic-pulse Overload	IEC 60115-1 4.39	4 times RCWV 10,000 cycles (1 Sec. on, 25 Sec. off)	±1.0%+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	±5.0%+0.1Ω
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%+0.1Ω
Temperature Cycling	IEC 60115-1 4.19	-55°C ⇄ Room Temp. ⇄ +155°C ⇄ Room Temp. (5 cycles)	±0.75%+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	±1.0%+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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