

## Melf Carbon Film Resistors



## 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.

# High Power Type

## Ultra Miniature Style [ MCP Series ]

## FEATURES

Power Rating	1W, 2W
Resistance Tolerance	$\pm 2\%$ , $\pm 5\%$
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.

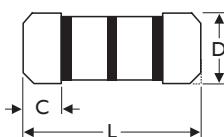


## TABLE I TEMPERATURE COEFFICIENT

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

Note:

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## 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. (Not more than maximum Overload Voltage)
Voltage Proof on Insulation	IEC 60115-1 4.7	In V-Block for 60 sec., test voltage as above table
Temperature Coefficient	IEC 60115-1 4.8	Between -55°C to +155°C
Insulation Resistance	IEC 60115-1 4.6	in V-block for 60 Sec.
Solderability	IEC 60115-1 4.17	245±5°C for 3±0.5 Sec.
Solvent Resistance of Marking	IEC 60115-1 4.30	IPA for 5±0.5 Min. with ultrasonic
Periodic-pulse Overload	IEC 60115-1 4.39	4 times RCWV 10,000 cycles (1 Sec. on, 25 Sec. off)
Damp Heat Steady State	IEC 60115-1 4.24	40±2°C, 90-95% RH for 56 days, loaded with 0.1 times RCWV
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)
Temperature Cycling	IEC 60115-1 4.19	-55°C ⇒ Room Temp. ⇒ +155°C ⇒ Room Temp. (5 cycles)
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

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

Revision: 2020

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