

## Melf Carbon Film Resistors

# High Power Type

## Ultra Miniature Style [ MCP Series ]



### INTRODUCTION

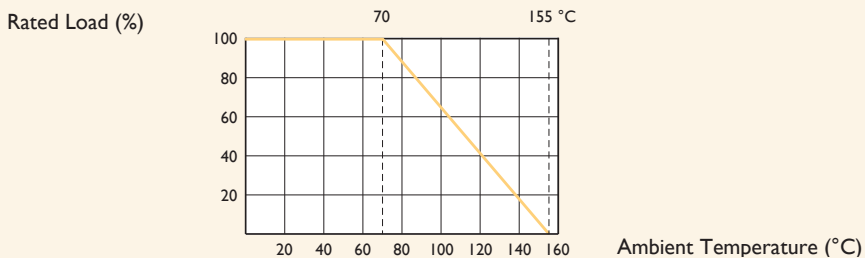
The MCP Series Melf Carbon Film High Power Resistors are manufactured by coating a homogeneous film of pure carbon on high grade ceramic rods. SMD enabled structure and high power in small packages.

### 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.

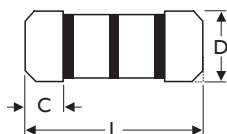


### TABLE I TEMPERATURE COEFFICIENT

STYLE	TEMP. COEFFICIENT ppm/°C		
	under 10K $\Omega$	11K $\Omega$ - 150K $\Omega$	160K $\Omega$ - 1M $\Omega$
MCP100, MCP200	-350~0	-600~0	-1,000~0

### DIMENSIONS

Unit: mm



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

Note:

## ELECTRICAL CHARACTERISTICS

STYLE	MCPI00	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)	±1.0%+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	Between -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	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
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 (or Umax., Whichever less) for 1,000 Hr. (1.5Hr: on, 0.5Hr: 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.

Revision: 2020

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