Innovative Service Around the Globe YAGEO

DATA SHEET

MOLDED RESISTORS

Power, Surface mount

MWP Series

±1%, ±5%

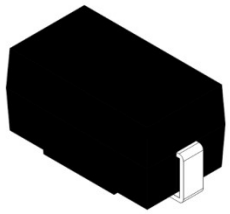
1W to 5W

RoHS compliant & Halogen Free

YAGEO

Product specification – August 31, 2023 V.4





APPLICATIONS

- Industrial
- Consumer & Electronics
- Power and Energy

FEATURES

- Suitable for automatic pick and place
- All welded construction
- Small package size
- Molded encapsulation
- RoHS compliant & halogen free

ORDERING INFORMATION

Part number of the molded resistor is identified by the series, power rating, tolerance, packing, temperature coefficient and resistance value.

PART NUMBER

MWP	5WS	J	R	-	100R
(1)	(2)	(3)	(4)	(5)	(6)

(1) SERIES NAME

MWP Series

(2) POWER RATING

100 = 1W	3WS= 3W
2WS = 2W	300 = 3W
200= 2W	5WS = 5W

(3) TOLERANCE

F= ±1%	J = ±5%

(4) PACKAGING

R =Reel Pack

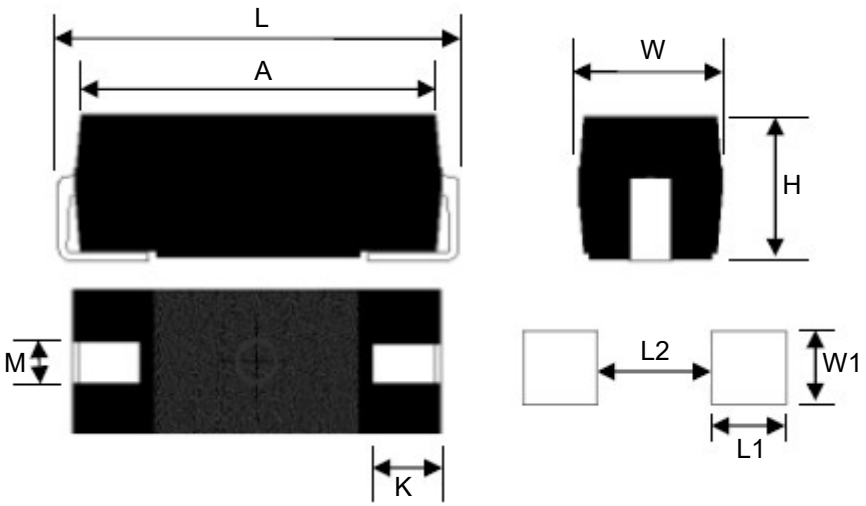
(5) TEMPERATURE COEFFICIENT OF RESISTANCE

F=±100ppm/°C	- = Based on spec.

(6) RESISTANCE VALUE

E24 & E96 Series
Example:
0R1 = 0.1Ω, 100R = 100Ω, 1K = 1,000Ω…….

DIMENSIONS

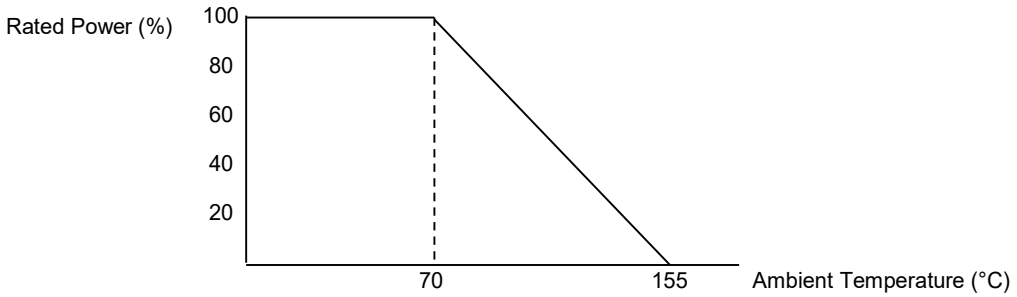


TYPE DIMENSIONS Unit: mm

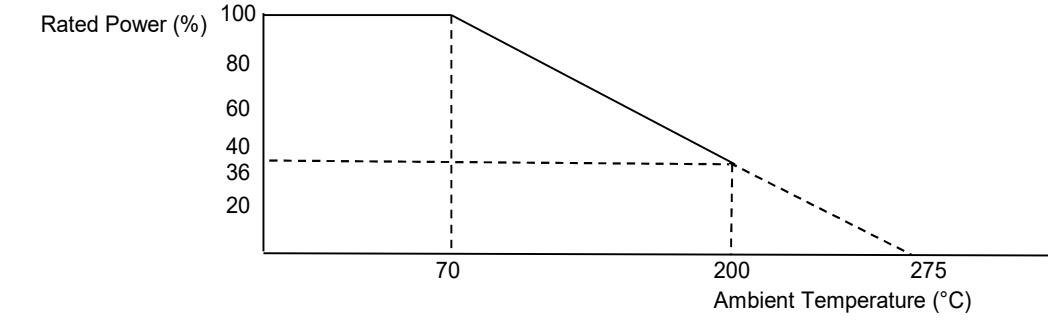
Normal	Miniature	Size	L Max.	A	W	H	M	K	W1 Min.	L1 Min.	L2
MWP100	MWP2WS	2616	7.9	6.8±0.3	4.2±0.3	3.55±0.3	1.4±0.3	1.5±0.3	2.8	3	4±0.3
MWP200	MWP3WS	4525	13	11.5±0.3	6.35±0.3	5.0±0.3	1.7±0.3	2.3±0.3	3	3.5	7±0.3
MWP300	MWP5WS	5027	17	12.7±0.3	7.0±0.3	6.8±0.3	1.7±0.3	2.5±0.3	3	3.8	8.2±0.3

DERATING CURVE

MWP100, MWP200, MWP300



MWP2WS, MWP3WS, MWP5WS



ELECTRICAL CHARACTERISTICS

CHARACTERISTICS	MWP100	MWP200	MWP300
Power Rating at 70 °C	1W	2W	3W
Maximum Working Voltage	300V	500V	500V
Maximum Overload Voltage	600V	700V	700V
Voltage Proof on Insulation	500V	700V	1000V
Resistance Range (Film)	1Ω ~ 1MΩ	1Ω ~ 1MΩ	1Ω ~ 1MΩ
Operating Temp. Range	- 55°C to +155°C		
Temperature Coefficient	±100ppm/°C, ±300ppm/°C		

Note: For resistance value out of above range is by request.

CHARACTERISTICS	MWP2WS	MWP3WS	MWP5WS
Power Rating at 70 °C	2W	3W	5W
Voltage Proof on Insulation	500V	700V	1000V
Resistance Range (Wirewound)	0.1Ω ~ 150Ω	0.1Ω ~ 750Ω	0.1Ω ~ 1.8KΩ
Maximum Working Voltage	√(P X R)		
Operating Temp. Range	- 55°C to +200°C		
Temperature Coefficient	±100ppm/°C, ±300ppm/°C		

Note: For resistance value out of above range is by request.

TEST AND REQUIRMENTS

TEST	TEST METHOD	PROCEDURE	APPRAISE
Short Time Overload	IEC 60115-1 4.13	5 times rated power for 5 sec.	±0.5%+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.	>1,000MΩ
Solderability	IEC 60115-1 4.17	245±5°C for 3±0.5 Sec.	95% Min. coverage
Resistance to Soldering Heat	IEC 60115-1 4.18	260±3°C for 10±1 Sec.	±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	±1.0%+0.05Ω
Endurance at 70°C	IEC 60115-1 4.25	70±2°C at RCWV(or Umax., whichever less) for 1,000 Hr.(1.5 Hr.on,0.5 Hr. off)	±1.0%+0.05Ω

Note:

RCWV (Rated Continuous Working Voltage):

The DC or AC (rms) continuous working voltage corresponding to the rated power is determined by the following formula:

$V=\sqrt{(P \times R)}$
or max. working voltage whichever is less

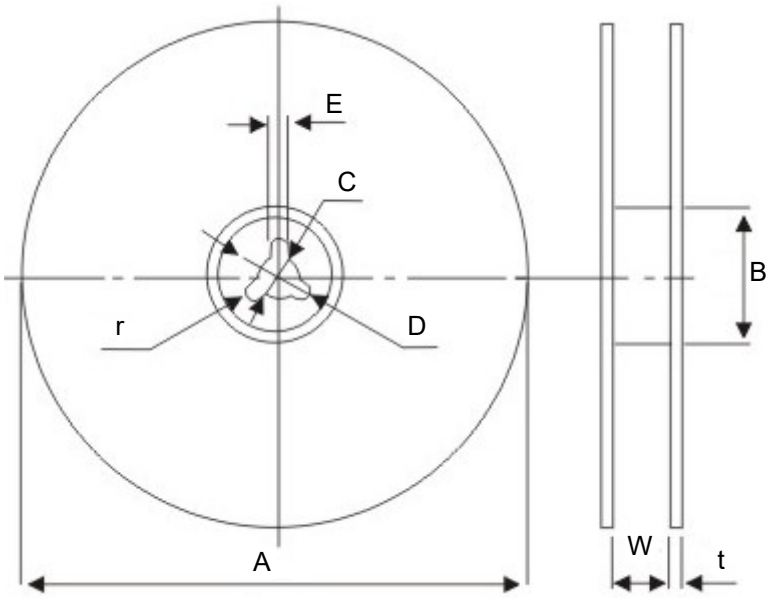
Where

V=Continuous rated DC or
AC (rms) working voltage (V)

P=Rated power (W)

R=Resistance value (Ω)

PACKING METHODS



TYPE Unit: mm/piece

Normal	Miniature	A	B	C	D	E	W	t	r	Quantity Per Reel
MWP100	MWP2WS	330±5	Ψ100	13±0.5	23±1	2.0±0.5	17.0±1.5	2.0±0.5	R1.0	2,000
MWP200	MWP3WS	330±5	Ψ100	13±0.5	23±1	2.0±0.5	25.0±1.5	2.0±0.5	R1.0	1,000
MWP300	MWP5WS	330±5	Ψ100	13±0.5	23±1	2.0±0.5	32.0±1.5	2.0±0.5	R1.0	500

MARKING



Example:

YAGEO	= Brand
5W	= Power rating
10R	= Resistance
J	= Tolerance

REVISION HISTORY

REVISION	DATE	CHANGE NOTIFICATION	DESCRIPTION
Version 4	Aug. 31, 2023	-	- Revised LEGAL DISCLAIMER
Version 3	Jul. 18, 2023	-	- Resistance to soldering heat test is included.
Version 2	May 10, 2022	-	- Revised Operating Temp. Range and derating curve
Version 1	Mar. 24, 2022	-	- Revised the package quantity of MWP300 / MWP5WS
Version 0	Aug. 11, 2021	-	- First issue of this specification

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