



Product Change Notification

TE Connectivity

Product Change Notification: P-22-023737

PCN Date: 07-DEC-22

TE would like to inform you of the following change(s) to the listed TE Connectivity Product. In case of any further questions about this change(s), please contact your TE Connectivity Sales Engineer. Affected part, drawing and/or specification numbers are listed on the attached sheet(s).

General Product Description:
High power resistors - Type MPC series

Description of Changes
In order to improve our product line, maintain production quality and more easily enable product improvements we have made the decision to change the manufacturing site of the TE Connectivity MPC series power resistor. Whilst essentially the product will remain the same there will be a few small differences as detailed in the attached document. PCN-22-159937 also refers
Other attachments:
[MPC PCN Support Document](#)
[Old Data sheet](#)
[New Data sheet](#)

Reason for Changes:
Product improvement

Estimated Dates:

Last Order Date (Obsolete Parts Only):	First Date To Ship (Changed Parts Only):
	31-JAN-2023
Last Ship Date (Obsolete Parts Only):	Last Date for Mixed Shipments: (Changed Parts Only):
	28-FEB-2023

Part Number(s) being Modified:

Part Number	Part Discontinued per PCN	Customer Drawing	Customer Part Number	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
1-1623776-5	NO			"MPC52500J"			
1-1623776-6	NO			"MPC52501J"			
1623776-1	NO			"MPC52100J"			
1623776-2	NO			"MPC52101J"			
1623776-3	NO			"MPC52102J"			
1623776-9	NO			"MPC52201J"			

Part Number(s) being Modified:

Part Number	Part Discontinued per PCN	Customer Drawing	Customer Part Number	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
1-1623776-5	NO			"MPC52500J"			
1-1623776-6	NO			"MPC52501J"			
1623776-1	NO			"MPC52100J"			
1623776-2	NO			"MPC52101J"			
1623776-3	NO			"MPC52102J"			
1623776-9	NO			"MPC52201J"			

PCN Supporting Document

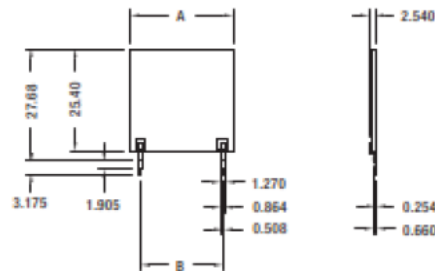
In order to improve our product line, maintain production quality and more easily enable product improvements we have made the decision to change the manufacturing site of the TE Connectivity MPC series power resistor.

Whilst essentially the product will remain the same there will be a few small differences.

Dimensions

Old

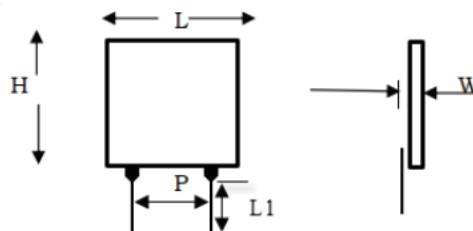
Dimensions



Size	MPC3	MPC5	MPC7	MPC10
A	10.16	12.7	19.05	25.4
B	5.08	5.08	12.70	20.32

New

Dimensions



Type	L±0.13	H±0.13	W±0.05	P±0.38	L1	Unit Weight g/pc
MPC3	10.16	25.4	2.50	5.08	3.175	1.12
MPC5	12.7	25.4	2.50	5.08	3.175	1.3
MPC7	19.05	25.4	2.50	12.7	3.175	1.8
MPC10	25.4	25.4	2.50	20.32	3.175	2.6

Dimensional Differences

Tile – Thickness (New) 2.50 vs (Old) 2.54

Terminal pins – (New) 0.25 x 0.5 vs (Old) 0.254 x 0.508

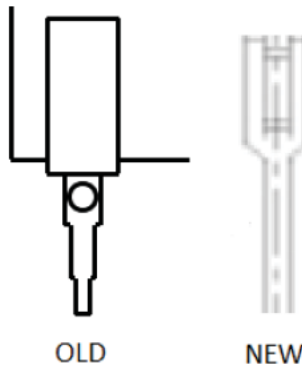
Appearance

Marking now appears on the rear of the tile

Terminal pin profile

New - One shoulder 1.29 narrowing to 0.5 for the main pin

Old - Two shoulders 1.27 narrowing to 0.864 then narrowing to 0.508.



NB. Pin pitch identical.

Performance

Maximum Operating Voltage Old – 300V across the range.

New – 3W = 200V, 5W = 300V, 7W = 400V, 10W = 500V

Operating temperature range Old - -55 ~ 125°C

New - -55 ~ 155°C

Values under 1Ω no longer offered.

Tolerance of 0.5% now offered.

See datasheet for full details

While TE has made every reasonable effort to ensure the accuracy of the information in this document, TE does not guarantee that it is error-free, nor does TE make any other representation, warranty or guarantee that the information is accurate, correct, reliable or current. TE reserves the right to make any adjustments to the information contained herein at any time without notice. TE expressly disclaims all implied warranties regarding the information contained herein, including, but not limited to, any implied warranties of merchantability or fitness for a particular purpose. The dimensions in this document are for reference purposes only and are subject to change without notice. Specifications are subject to change without notice. Consult TE for the latest dimensions and design specifications.

Type MPC Series

Key Features

High
power
density

Easy to
mount

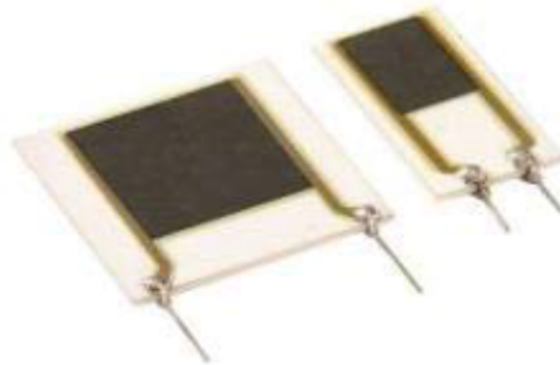
Non
inductive

Stable at
100PPM/°C

Temperature
range -55°C
to +155°C

High power
up to 10
Watts

Wide range
Of tolerances



A range of non-inductive thick film power resistors complementing the T0220 packaged MPT series (20 Watt heat sink styles), being vertically mounted and suitable to dissipate power from 3 Watts up to 10 Watts. Available in values from 1R0 to 200K ohms they are the ideal solution for small snubber circuits, the output side of high speed pulse generators and low inductive resistor requirements in switch mode power supplies.

Characteristics – Electrical

Power Rating @70°C	Up to 10W
Maximum Working Voltage	Up to 500V
Short Term Overload	5 x rated power for 5 seconds
Available Tolerance	0.5%, 1%, 5%
Temperature Coefficient of Resistance	±100PPM/°C
Operating Temperature Range	-55°C to +155°C

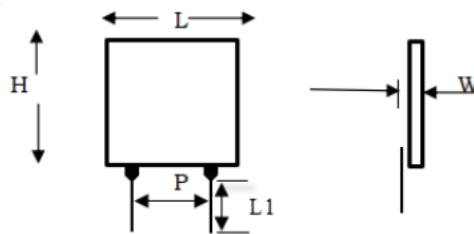
Type Item	MPC3	MPC5	MPC7	MPC10
Power Rating @70°C	3W	5W	7W	10W
Max Working Voltage	200V	300V	400V	500V
Resistance Range	1R0 ~ 200K			

Environmental Characteristics

Characteristics	Method	Standards
Short Term Overload	5 x Rated Power – 5 Sec	$\Delta R \pm (1.0\% + 0.05 \text{ Ohms})$
Load Life	Rated 1000 Hrs 1.5/0.5 Hr ON/OFF	$\Delta R \pm (2.0\% + 0.05 \text{ Ohms})$
Temperature Cycling	-55 /+155, 5 cycles	$\Delta R \pm (0.5\% + 0.05 \text{ Ohms})$
Insulation Resistance	At 500V for 1 Min	Shall not be less than 10,000 M Ohms
Dielectric Test		No Flash over at 5KV
Resistance Soldering Heat	260°C 10 sec	$\Delta R \pm (0.5\% + 0.05 \text{ Ohms})$
Solderability	Solder bath dip – 5 Sec	Greater than 95% Coverage
Resistance to Solvents	Solvent dip – 3 Min	$\Delta R \pm (0.5\% + 0.05 \text{ Ohms})$
Damp Heat Steady State	40°C/95% Rh – 56 days	$\Delta R \pm (0.5\% + 0.05 \text{ Ohms})$
Terminal Strength	Bending, Tensile, Torsion	No Mechanical Damage

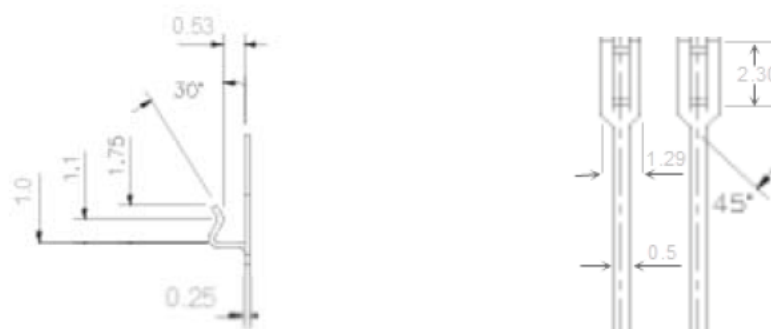
Reference Standards:

Dimensions

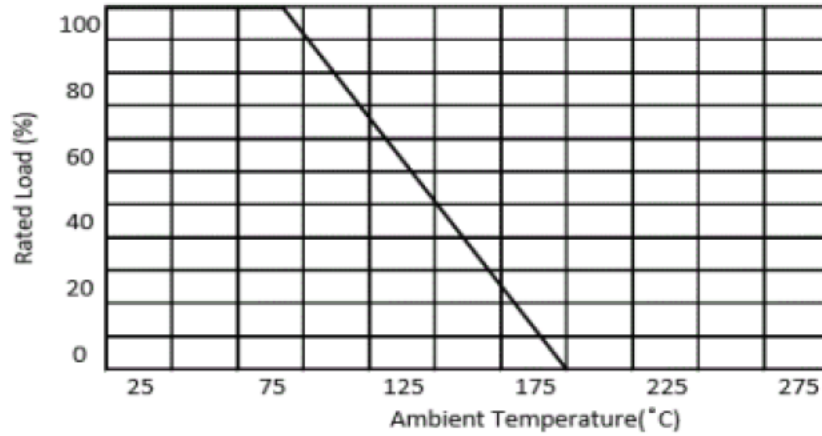


Type	L±0.13	H±0.13	W±0.05	P±0.38	L1	Unit Weight g/pc
MPC3	10.16	25.4	2.50	5.08	3.175	1.12
MPC5	12.7	25.4	2.50	5.08	3.175	1.3
MPC7	19.05	25.4	2.50	12.7	3.175	1.8
MPC10	25.4	25.4	2.50	20.32	3.175	2.6

Terminal pin detail



Derating Curve



Packaging

MPC3 and MPC5

50 pcs per tray, 20 trays = 1000pcs

0	0	0	0	0	0	0	0	0	0	0	0
0	1	1	1	1	1	1	1	1	1	1	0
0	1	1	1	1	1	1	1	1	1	1	0
0	1	1	1	1	1	1	1	1	1	1	0
0	1	1	1	1	1	1	1	1	1	1	0
0	1	1	1	1	1	1	1	1	1	1	0
0	0	0	0	0	0	0	0	0	0	0	0

MPC7

35 pcs per tray, 29 trays = 1015pcs

0	0	0	0	0	0	0	0	0
0	1	1	1	1	1	1	1	0
0	1	1	1	1	1	1	1	0
0	1	1	1	1	1	1	1	0
0	1	1	1	1	1	1	1	0
0	1	1	1	1	1	1	1	0
0	0	0	0	0	0	0	0	0

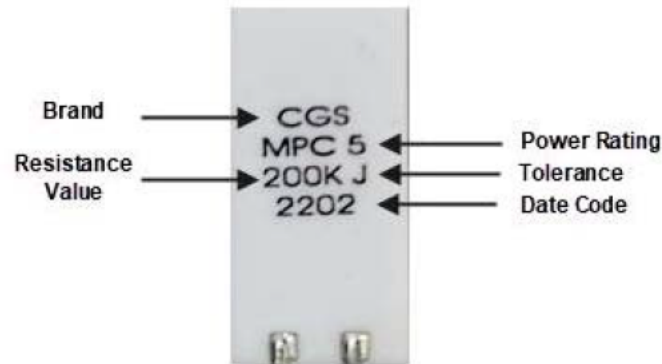
MPC10

42 pcs per tray, 24 trays = 1008pcs

1	1	1	1	1	1
1	1	1	1	1	1
1	1	1	1	1	1
1	1	1	1	1	1
1	1	1	1	1	1
1	1	1	1	1	1
1	1	1	1	1	1

Marking

Marking is on the rear of component



How To Order

MPC	52	1K0	J
Common Part	Power Rating/Size	Resistance Value	Tolerance
MPC – Thick Film Planar Resistance	32 – 3 Watts	1 ohm (1000 milliohms) 1R0	D ±0.5%
	52 – 5 Watts	1K ohm (1000 ohm) 1K0	F ±1%
	75 – 7 Watts	100K ohm (100,000 ohm) 100K	J ±5%
	108 – 10 Watts		

While TE has made every reasonable effort to ensure the accuracy of the information in this data sheet, TE does not guarantee that it is error-free, nor does TE make any other representation, warranty or guarantee that the information is accurate, correct, reliable or current. TE reserves the right to make any adjustments to the information contained herein at any time without notice. TE expressly disclaims all implied warranties regarding the information contained herein, including, but not limited to, any implied warranties of merchantability or fitness for a particular purpose. The dimensions in this data sheet are for reference purposes only and are subject to change without notice. Specifications are subject to change without notice. Consult TE for the latest dimensions and design specifications.

High Power Resistors

Type MPC Series

Type MPC Series



A range of non inductive thick film power resistors complementing the T0220 packaged MPR series (20 Watt heat sink styles), being vertically mounted and suitable to dissipate power from 3 Watts up to 10 Watts. Available in values from 1R0 to 200K ohms they are the ideal solution for small snubber circuits, the output side of high speed pulse generators and low inductive resistor requirements in switch mode power supplies.

Key Features

- High Power Density
- Easy to Mount
- Non Inductive
- Stable at 100ppm/°C
- Temperature Range -55°C to +125°C
- High Power up to 10 Watts
- Voltage Proof 5000V dc
- Non Flammable

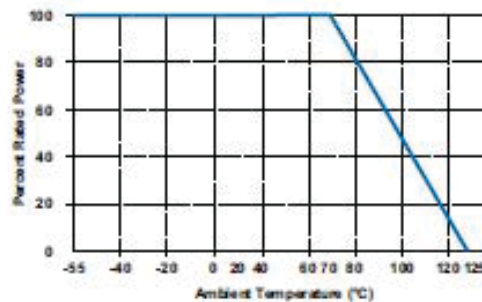
Characteristics - Electrical

Resistance Values:	R10 to 200K
Resistance Tolerance:	1%, 5%
Temp. Coefficient of Resistance:	±100ppm/°C
Rated Power @ 70°C:	3 to 10 Watts nominal
Equivalent Parallel Capacitance (100 MHz):	1.0pf
Maximum Operating Voltage:	300V AC
Withstanding Voltage:	5000V
Operating Temperature Range:	-55°C to +125°C
Overload Current:	20 x rated current up to 8 ms ($\Delta R \pm 0.5\%$)

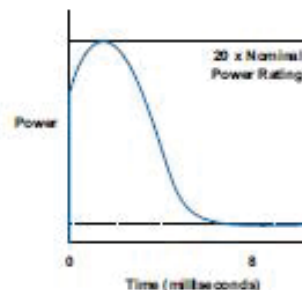
Characteristics - Mechanical

	Test Condition MILR83401	Specification
Life (Rated Power):	40°C, rated power, 90 min ON 30 min OFF, 1000 hrs.	$\Delta R \pm (1.0\% + 0.05 \text{ ohm})$
Life (Moisture Load):	60°C, 90 - 95% RH, rated power 90 min ON 30 min OFF, 1000 hrs.	$\Delta R \pm (1.0\% + 0.05 \text{ ohm})$
Temperature Cycling:	Room temp > -55°C 30 min > RT 10 min ± 120°C 30 min > RT 10 min 5 cycles	$\Delta R \pm (0.25\% + 0.05 \text{ ohm})$
Flammability:	UL94V-0 rated	
Soldering Heat:	350°C Solderpot, 3 secs.	$\Delta R \pm (0.25\% + 0.05 \text{ ohm})$
Insulation Resistance:	DC 100V, 1 min	Over 1000M ohm
Vibration:	10 - 50 Hz, 1 min, 20G, X-Y-Z 1 hr.	$\Delta R \pm (0.25\% + 0.05 \text{ ohm})$

Power Derating Curve

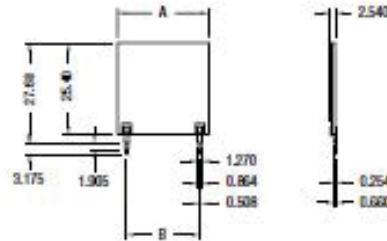


Overload Characteristics



Type MPC Series

Dimensions



Size	MPC3	MPC5	MPC7	MPC10
A	10.16	12.7	19.05	25.4
B	5.08	5.08	12.70	20.32

Product Marking

Value (Ohms)	1	2	5	10	20	50	100	200	500	1K	2K	5K	10K	20K	50K	100K	200K
Code	1R0	2R0	5R0	100	200	500	101	201	501	102	202	502	103	203	503	104	204

How to Order

MPC	52	1K0	J
Common Part	Power Rating / Size	Resistance Value	Tolerance
MPC - Thick Film Planar Resistor	32 - 3 Watts 52 - 5 Watts 75 - 7 Watts 108 - 10 Watts	See code in table above	F ±1% J ±5%

NB: Due to the wide range of available values/tolerances etc. some variants may not be tool'd for production. It is possible that a small tooling charge may be levied dependant on order quantity or potential. Please check.