

Type MPT Series

Key Features

Small Size TO220 and TO247

Easy to mount

Isolated moulded case

Non Inductive

High Power – TO220 to 50W when mounted on suitable heatsink

TO247 to 100W when mounted on suitable heatsink



The MPT Resistor series are a range of T0220 and T0247 packaged, low inductance thick film power resistors. This small size, high power device with 5 models are ideally suited to applications where high power dissipation yet small size are key design requirements. The MPT Resistor series 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

	MPT20	MPT30	MPT35
Package Size	TO220	TO220	TO220
Resistance Range	R05 ~ 1M0	R05 ~ 100K	R05 ~10K
Rated Power (with Heatsink)	20W	30W	35W
Rated Power (in free air)	3W@25°C	2.25W@25°C	2.5W@25°C
Maximum Operating Voltage	350V	420V	350V
Dielectric Strength	1800VAC		
Insulation Resistance	10GΩ min.		
Operating Temperature	-65°C~150°C		

	MPT50	MPT50H	MPT100
Package Size	TO220	TO220	TO247
Resistance Range	R10 ~ 10K	R10 ~ 10K	R05 ~ 100K
Rated Power (w / Heatsink)	50W	50W	100W
Rated Power (in free air	3W@25°C	2.25W@25°C	3.5W@25°C
Maximum Operating Voltage	350V	420V	700V
Dielectric Strength	1800VAC		
Insulation Resistance	10GΩ min.		
Operating Temperature	-65°C ~ 150°C -65°C ~175°C		



TCR / Tolerance Value Chart

	0.5%	1%	5%	10%	TCR
MPT20		-	R05	5 ~ 1RO	Unspecified
	-	1R1 ~ 3R0			300PPM
IVIPTZU		3R3 ~ 10R			100PPM
		11F	50PPM		
		- R05 ~1R0		Unspecified	
MPT30	-		1R1~3R0		300PPM
IVIPTSU			3R3 ~10R		100PPM
		11R ~100K 50PPM			
		-	R05	5 ~ R91	Unspecified
MPT35	-	- 1R0 ~ 10R			100PPM
		11F	50PPM		
		1R0	R10) ~ 1RO	Unspecified
MPT50	-	- 1R1 ~3R0			300PPM
IVIF130		3R3 ~ 10R			100PPM
		111	50PPM		
		1R0	R10	0~1R0	Unspecified
МРТ50Н	- 1R1 ~ 3R0			300PPM	
MPTSUH		3R3 ~ 10R			100PPM
		11R~10K 5			50PPM
MPT100		-	R05	5 ~ 1R0	Unspecified
		1R1 ~ 3R0		300PPM	
IVIPTIOO	_		3R3 ~ 10R		100PPM
		11R ~ 100K		50PPM	

Characteristics – Environmental

Test Item	Requirement	Test Method
Temperature Coefficient of	As Spec.	Referenced to 25°C, ΔR taken at
Resistance (T.C.R.)		+105°C
Short Time Overload	ΔR±0.3%	2 times rated power with applied
		voltage not to exceed 1.5 times
		Maximum continuous operating
		voltage for 5 seconds
Load Life	ΔR±1.0%	2,000 hours at rated power
Damp Heat with Load	ΔR±0.5%	40±2°C, 90~95% R.H., RCWV for 1000
		hrs with 1.5 hrs "ON" and 0.5 hrs
		"OFF"
Solderability	90% min. coverage	245±5°C for 3 seconds
Thermal Shock	ΔR±0.3%	-65°C~150°C, 100 cycles
Terminal Strength	ΔR±0.2%	(Pull Test) 2.4N
Vibration, High Frequency	ΔR±0.2%	20g peak

Lead Material: Tinned Copper

For Models with fixing hole, maximum torque 0.9Nm

The Case Temperature is to be used for the Definition of the Applied Power Limit

The Case Temperature Measurement must be made with a Thermocouple Contacting the $\,$

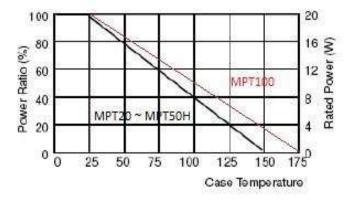
Center of the Component mounted on the Designed Heat Sink.

Thermal Grease should be Applied Properly

RCWV (Rated continuous working voltage)= V(P*R) or Max. Operating voltage whichever is lower

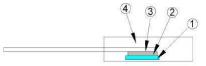


Derating Curve

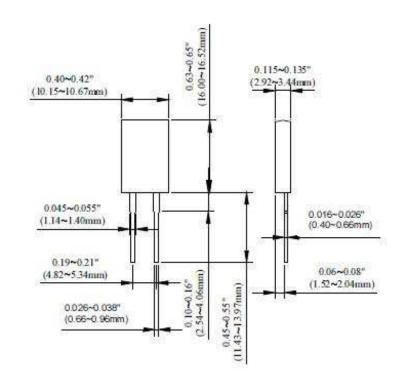


Construction and dimensions

MPT20

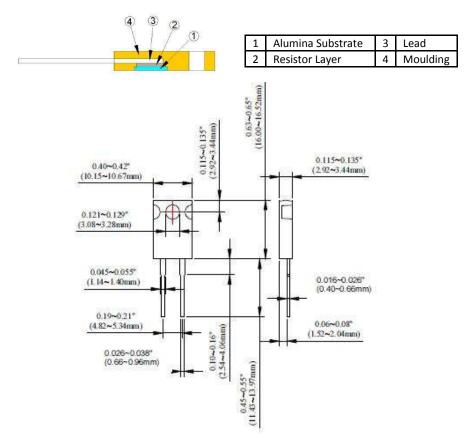


1	Alumina Substrate	3	Lead
2	Resistor Layer	4	Moulding

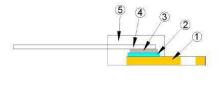




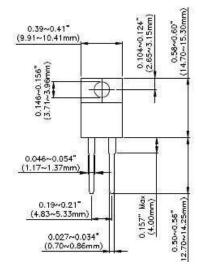
MPT30

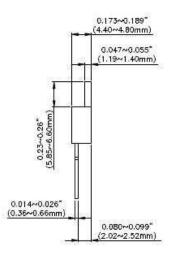


MPT35



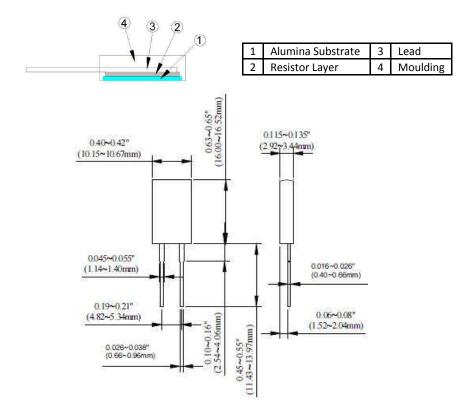
1	Flange	4	Lead
2	Alumina Substrate	5	Moulding
3	Resistor Layer		



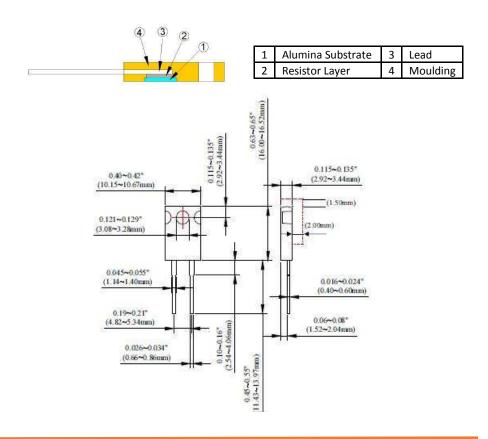




MPT50

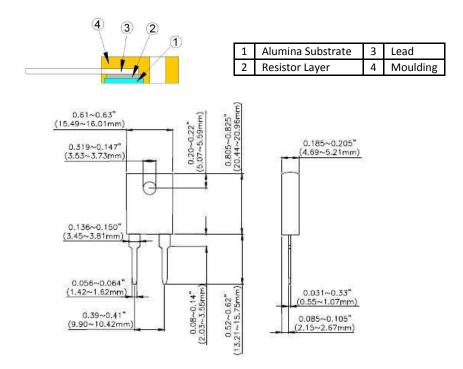


MPT50H





MPT100



Packaging

Model	Net Weight (1000 pieces)	Tube
MPT20	1290g	50 pieces
MPT30	1155g	50 pieces
MPT35	1902g	50 pieces
MPT50	1290g	50 pieces
MPT50H	2770g	50 pieces
MPT100	3381g	35 pieces

How To Order

MPT	35	С	C 100R	
Common Part	Power Rating on Heatsink @25°C	Temp. Coefficient of Resistance	Resistance Value	Tolerance
МРТ	20 – 20W 30 – 30W 35 – 35W 50 – 50W 50H – 50W 100 – 100W	X – unspecified C – 50PPM A – 100PPM S – 200PPM T – 300PPM	0.1 ohm (100 milliohms) R10 1 ohm (1000 milliohms) 1R0 1K ohm (1000 ohm) 1K0	D - 0.5% F - 1% J - 5% K - 10%

Mouser Electronics

Authorized Distributor

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TE Connectivity:

 MPT100A10RF
 MPT100A10RJ
 MPT100A3R3F
 MPT100A3R3J
 MPT35C82RF
 MPT35C8K2F
 MPT100C33RF

 MPT100C33RJ
 MPT100C390RF
 MPT35C12RF
 MPT35C68RF
 MPT35C68RJ
 MPT35C6K8F
 MPT35C10KF
 MPT35C10KF
 MPT35C10KF
 MPT35C12CRF
 MPT35C12CRF
 MPT100C47CRJ
 MPT100C47CRJ
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