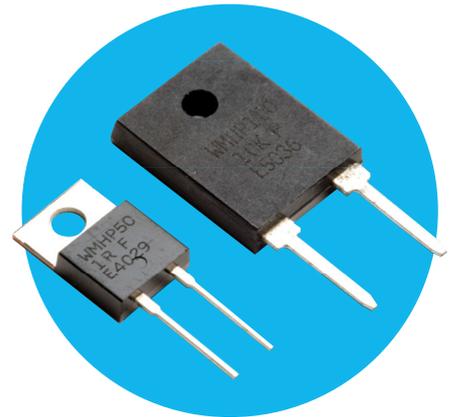


Heatsink Mount High Power Resistors

WMHP Series

- AEC-Q200 (WMHP35)
- TO-220 & TO-247 standard power packages
- Very low thermal resistance
- Non-inductive thick film technology
- 20 to 100 watt high power resistors
- Single screw mounting to heatsink
- Tailored heatsink WMHP-HS available
- Suitable for high frequency / fast pulse use



All parts are Pb-free and comply with EU Directive 2011/65/EU amended by (EU) 2015/863 (RoHS3)

Electrical Data

		WMHP20	WMHP35	WMHP50	WMHP100	Conditions
Package style		TO-220			TO-247	
Power rating	watts	20	35	50	100	Heatsink with 25°C flange temperature
Power rating	watts	1.5	2.5	3	3.5	Without heatsink, in free air 25°C
Limiting element voltage	volts	350			700	dc or ac rms
Resistance range	ohms	R05 – 10K				
Dielectric strength	volts	1800				ac rms for 60s
Working temperature range	°C	-65 to 150		-65 to 175		
Insulation resistance	ohms	>10G				Between terminals and tab
Tolerances	%	≤1R0: ±5 >1R0: ±1, ±5				
TCR	ppm/°C	≤R20: ±1000 >R20-3R0: ±300 >3R0-10R: ±100 >10R: ±50				25 to 105°C
Standard values		E24 preferred				

Physical Data

Dimensions (mm) & Weight (g)				
	TO-220	TO-247		
A	10.16 ±0.25	15.75 ±0.26		
B	15 ±0.3	20.7 ±0.26		
C	4.6 ±0.2	4.95 ±0.26		
D	3.85 ±0.15	3.63 ±0.1		
E	13.75 ±0.5	14.48 ±1.27		
F	4 max	2.79 ±0.76		
G	5.08 ±0.25	3.63 ±0.18		
H	0.78 ±0.08	1.52 ±0.1		
J	1.3 ±0.1	10.16 ±0.26		
K	6.4 ±0.25	5.33 ±0.26		
L	0.51 ±0.15	0.81 ±0.26		
M	2.27 ±0.25	2.41 ±0.26		
Wt	2.0 nom	3.7 nom		

Performance Data

Test		Performance
Load at Rated Power: 2000hrs at rated power	±ΔR%	1
Short Term Overload: 2 x rated power with applied voltage not to exceed 1.5 x maximum continuous operating voltage for 5 seconds	±ΔR%	0.5
Damp Heat with Load: 40 ±2°C, 90 – 95% RH, maximum working voltage 1.5 hours on, 0.5 hours off, 1000 hours	±ΔR%	1
Thermal Shock: -65°C/150°C, 100cycles	±ΔR%	0.3
Terminal Strength: 2.4N pull test	±ΔR%	0.2

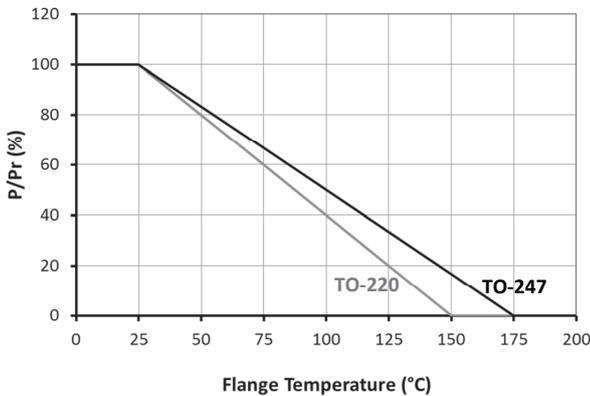
General Note

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Heatsink Mount High Power Resistors

WMHP Series

Temperature Derating



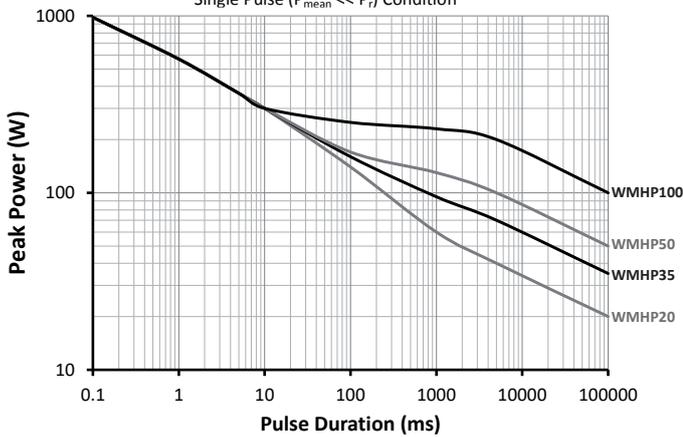
Mounting

The resistor should be mounted to a heatsink using a suitable thermal interface material. The maximum tightening torque for the M3 mounting screw is 0.9Nm.

A tailored heatsink is available which accommodates both TO-220 and TO-247 package styles. This is WMHP-HS and product data is available at <http://www.ttelectronics.com/sites/default/files/resistors-datasheets/WMHP-HS.pdf>

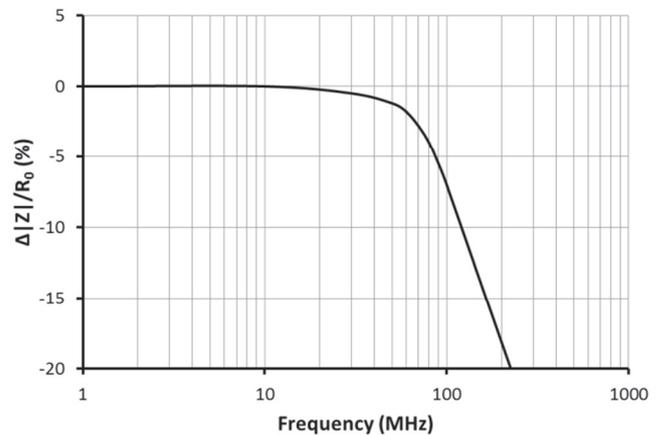
Pulse Performance

Single Pulse ($P_{mean} \ll P_r$) Condition



Pulse performance for durations $\geq 1s$ is dependent on mounting conditions. The short term overload power limit is 2 x power rating for 5s.

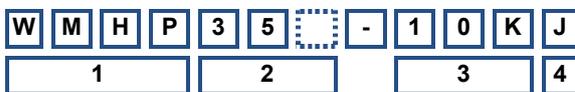
Typical High Frequency Performance



Typical high frequency characteristics for WMHP35-220R. Self resonant frequency is 1GHz.

Ordering Procedure

Example: WMHP35-10KJ (WMHP35 at 10 kilohms $\pm 5\%$, Pb-free)



1 Type	2 Rating	3 Value	4 Tolerance	Packing
WMHP	20	3 / 4 characters	F = $\pm 1\%$	Plastic tubes
	35	R = ohms	J = $\pm 5\%$	TO-220: 50/tube
	50	K = kilohms		TO-247: 30/tube
	100			

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