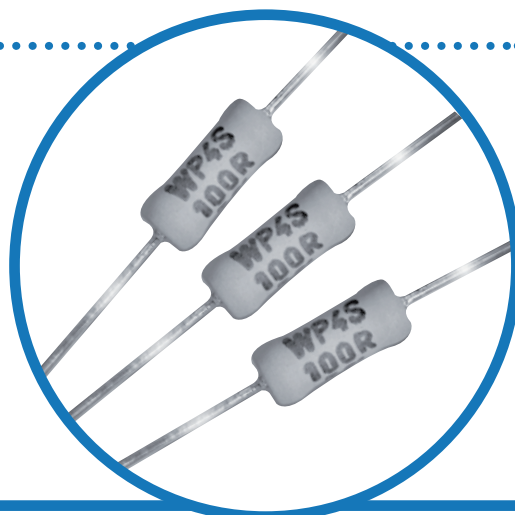


Compact Flameproof Power Wirewound Resistors

WP-S Series

- Small size for power rating
- Enhanced pulse handling capability
- Flameproof protection
- SMD Z-form available
- RoHS compliant with Pb-free terminations

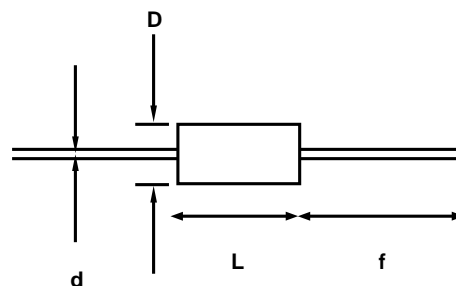


Electrical Data

		WP1S	WP2S	WP25S	WP3S	WP4S	WP5S
Power rating at 25 °C	watts	1	2	2.5	3	4	5
5s overload rating at 25°C	watts	5	10	12.5	15	20	25
Short pulse performance		See Pulse Performance graphs					
Resistance range	ohms	R068 to 430R	R05 to 900R	R05 to 900R	R01 to 2K2	R01 to 10K	R015 to 6K8
Limiting element voltage	volts	50	50	75	100	100	150
TCR	ppm/°C	<1R: 350 ≥1R: 200					
Isolation Voltage	volts	250			350	500	
Resistance Tolerance	%	<20R: 5 ≥20R: 1, 2, 5				<R10: 5 ≥R10: 1, 2, 5	<20R: 5 ≥20R: 1, 2, 5
Standard Values		E24 preferred					
Thermal Impedance	°C/watt	140	110	90	82	62	54
Ambient temperature range	°C	-55 to +155					

Physical Data

Dimensions (mm) & Weight (g)							
Type	L max	D max	f min	d nom	PCB mount centres	Min bend radius	Wt. nom
WP1S	6.2	2.8	21.20	0.6	10.20	0.6	0.22
WP2S	9.0	3.6	19.80	0.8	12.70	1.2	0.50
WP25S	12.5	4.5	17.80		18.40		0.50
WP3S	14.5	5.2 (Note 1)	24.55		20.30		1.10
WP4S	13	5.6 (Note 2)	22.75		18.90		1.00
WP5S	16.5	7.0 (Note 3)	23.55		22.86		1.75



Note 1: 5.4 for values ≤0R1 Note 2: 5.8 for values ≤0R1 Note 3: 7.2 for values ≤0R1

Construction

A high purity ceramic substrate is assembled with interference fit end caps to which are welded the terminations. The resistive element is wound on the substrate and welded to the caps. Flameproof silicone cement coating is applied prior to marking with indelible ink. The components are then leadformed if required and packed.

General Note

TT electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT electronics' own data and is considered accurate at time of going to print.

Terminations

Material:	Hot tin dipped copper wire
Strength:	The terminations meet the requirements of IEC 68.2.21
Solderability:	The terminations meet the requirements of IEC 115-1 Clause 4.17.3.2

Marking

WP1S, WP2S, WP25S and WP3S resistors R10 and above are marked with four or five colour bands in conformance with IEC62. Values below R10 are marked with three bands (two digits indicating value in milliohms, and tolerance); there is no multiplier band. WP4S and WP5S resistors are legend marked with type reference, resistance value and tolerance.

Solvent Resistance

The body protection and marking are resistant to all normal industrial cleaning solvents suitable for printed circuits.

Flammability

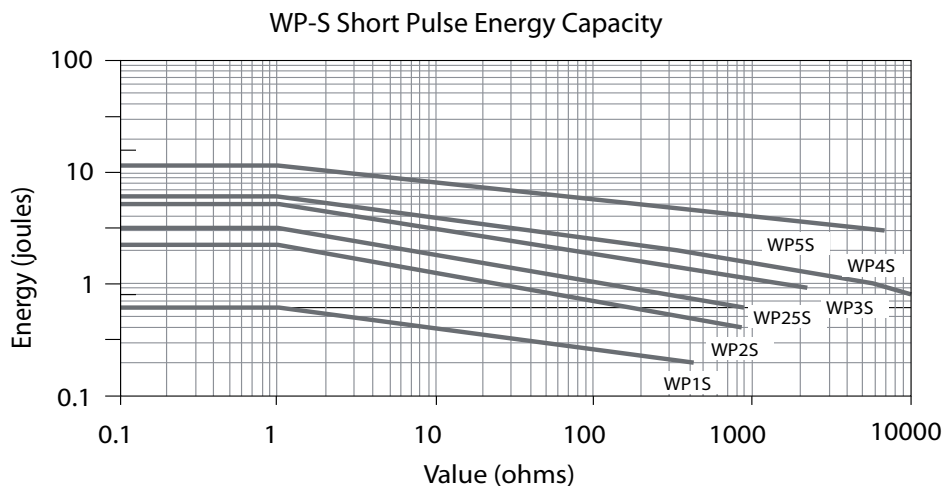
The resistor coating will not burn or emit incandescent particles under any condition of applied temperature or power overload.

Performance Data

		Maximum	Typical Change
Load at rated power: 1000hrs @ 25°C	$\Delta R\%$	5 +0.001 Ω	3
Dry heat: 1000hrs @ 200°C	$\Delta R\%$	5 +0.001 Ω	3
Short term overload (5 x Pr for 5s)	$\Delta R\%$	5 +0.001 Ω	1
Derating from rated power @25°C		Zero at 280°C	
Climatic	$\Delta R\%$	5 +0.001 Ω	2
Climatic category		55/200/56	
TRC & Vibration	$\Delta R\%$	5 +0.001 Ω	1
Robustness & solder heat	$\Delta R\%$	5 +0.001 Ω	1
Long term damp heat (56 days)	$\Delta R\%$	5 +0.001 Ω	1

Pulse Performance

The pulse energy capacity limits in the graph below relate to pulses below 100ms duration, low mean power dissipation and at 25°C.



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