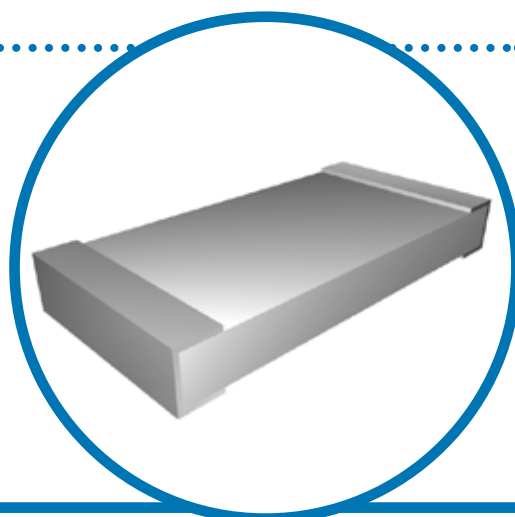


Pulse Withstanding Chip Resistors

PWC Series

- Higher power ratings
- Improved working voltage ratings
- Excellent pulse withstanding performance
- Sn/Pb or Pb-free wrap-around terminations
- Standard chip sizes available from 0805 to 2512



Electrical Data

Size		0805	1206		2010		2512	
Power @70°C	W	0.125	0.33	0.5	0.75	1	1.5	2
Resistance range	Ohms	1R0 to 10M						
Tolerance	%	10R to 1M: 0.5, All values: 1, 5						
LEV	V	150	200		400		500	
TCR	ppm/°C	<10R:200 ≥10R:100						
Operating temperature	°C	-55 to +155						
Thermal Impedance	°C/W	220	160	145	80	70	55	40
Pad / trace area *	mm²	40	50	125	60	250	100	500
Values		E96 preferred - other values to special order						
Pulse Capability		See graphs – full application note available on request						

*Recommended minimum pad & adjacent trace area for each termination for rated power dissipation on FR4 PCB

Environmental Data

Test	Maximum ¹ ΔR	Typical ΔR
Load life at rated power (1000 hours @ 70°C)	1.00%	0.25%
Overload (5.0 X rated power for 2512, 6.25 X rated power for other sizes, 5 secs)	1.00%	0.10%
High temperature storage (1000 hours @ 155°C)	1.00%	0.20%
Moisture resistance	1.00%	0.25%
Thermal shock	0.25%	0.05%
Resistance to soldering heat	0.25%	0.05%

Note ¹: 0.01Ω added for all resistance values <10Ω.

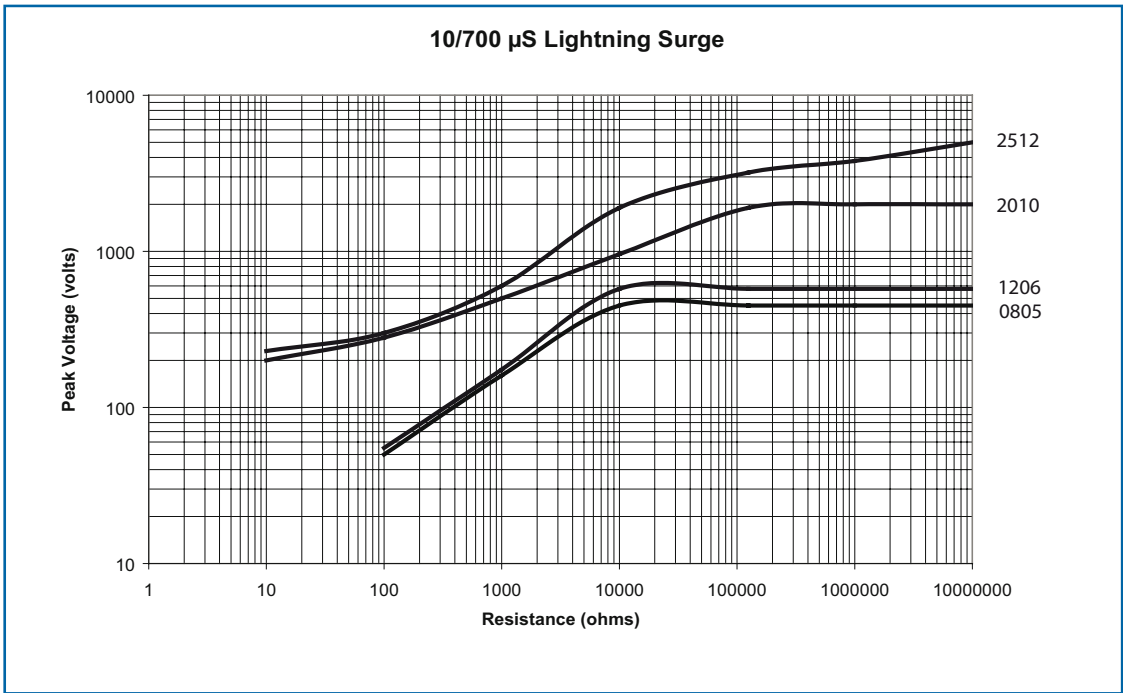
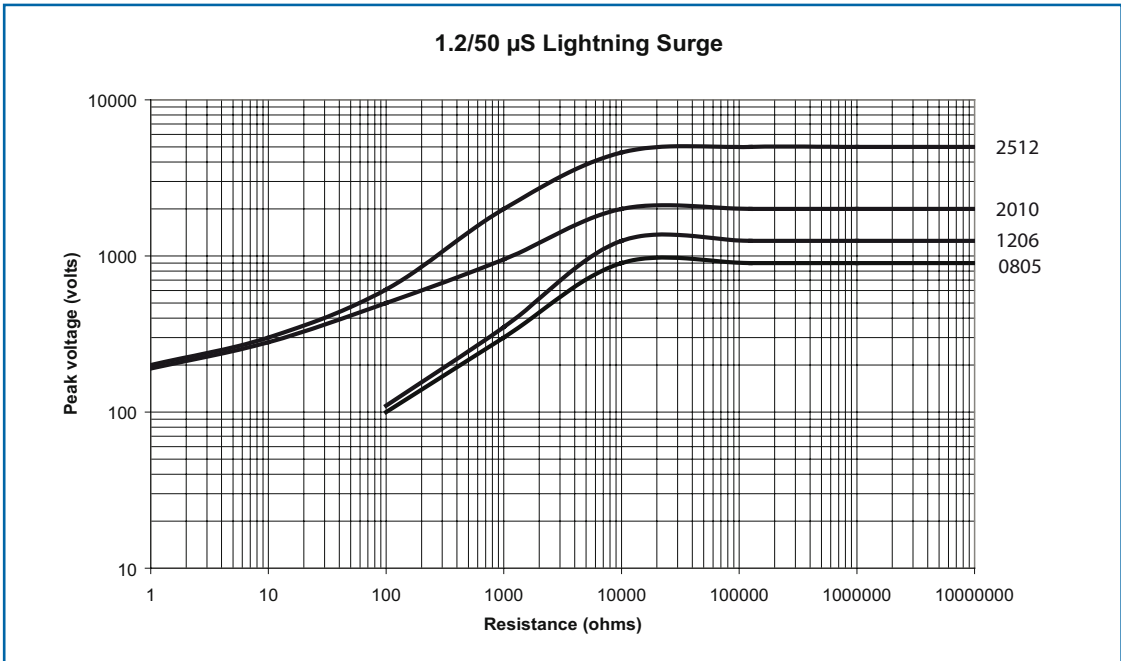
General Note

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.

Pulse Performance Data

Lighting Surge

Resistors are tested in accordance with IEC 60 115-1 using both 1.2/50µs and 10/700µs pulse shapes. The limit of acceptance is a shift in resistance of less than 1% from the initial value.



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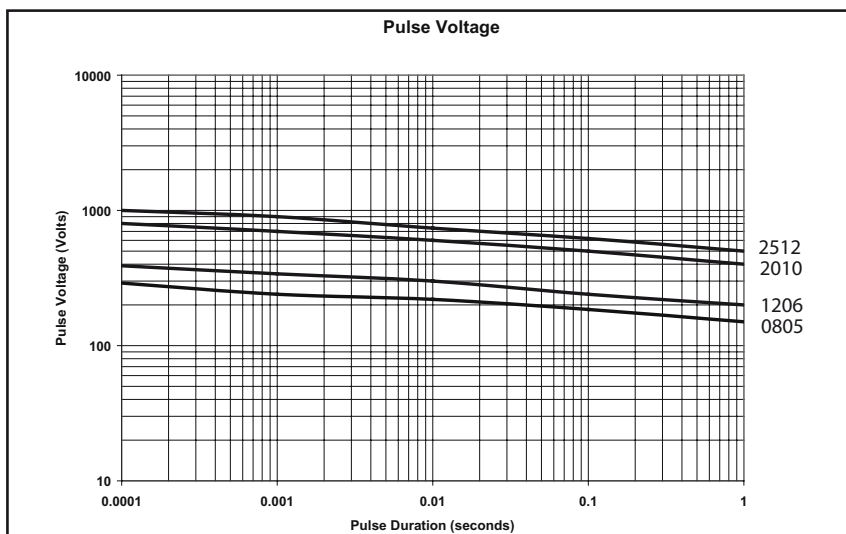
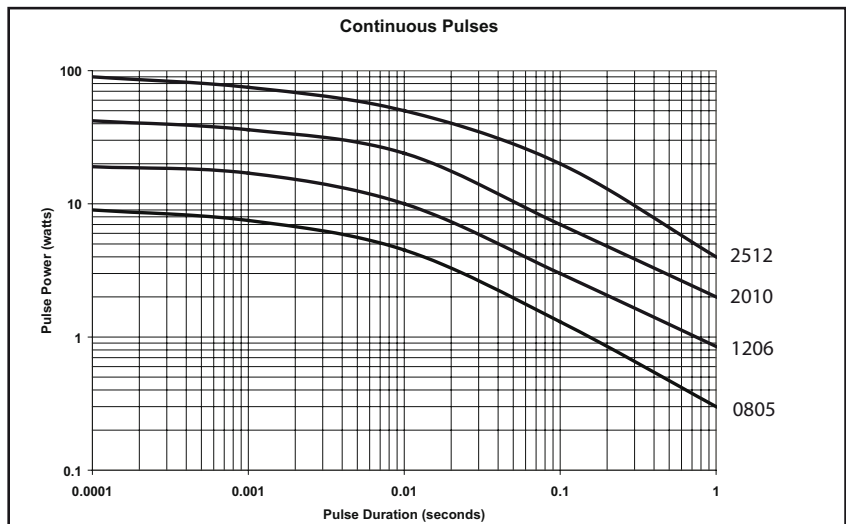
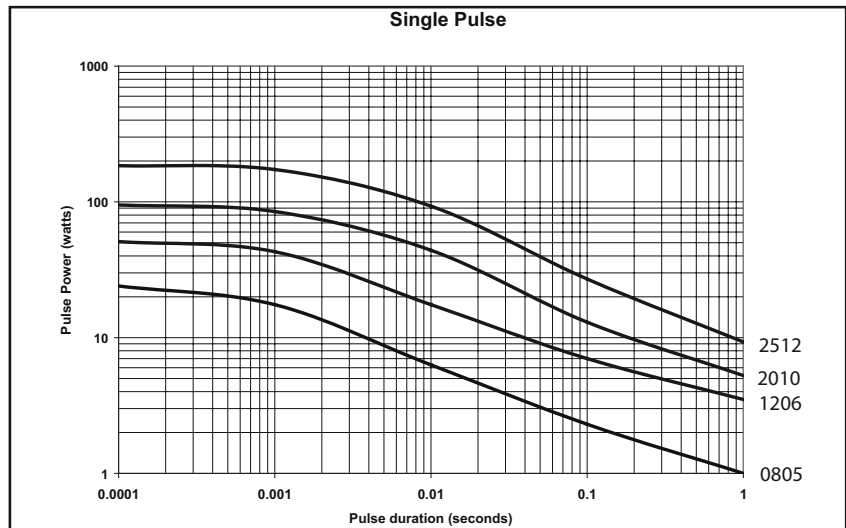
Pulse Performance Data

Single impulse:

The single impulse graph is the result of 50 impulses of rectangular shape applied at one minute intervals. The limit of acceptance was a shift in resistance of less than 1% from the initial value. The power applied was subject to the restrictions of the maximum permissible impulse voltage graph shown.

Continuous load due to repetitive pulses:

The continuous load graph was obtained by applying repetitive rectangular pulses where the pulse period was adjusted so that the average power dissipated in the resistor was equal to its rated power at 70°C. Again the limit of acceptance was a shift in resistance of less than 1% from the initial value.



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Physical Data

	L (mm)	W (mm)	T max (mm)	A (mm)	B min (mm)	C (mm)	Weight (grams)	
0805	2.0±0.3	1.25±0.2	0.6	0.3±0.15	0.9	0.3±0.1	0.009	
1206	3.2±0.4	1.6±0.2	0.7	0.4±0.2	1.7	0.4±0.15	0.020	
2010	5.1±0.3	2.5±0.2	0.8	0.6±0.3	3.0	0.6±0.25	0.036	
2512	6.5±0.3	3.2±0.2	0.8	0.6±0.3	4.4	0.6±0.25	0.055	

Construction:

Thick film resistor material, overglaze and organic protection are screen printed on a 96% alumina substrate. Wrap-around terminations have an electroplated nickel barrier and tin-lead solder or matte-tin finish, ensuring excellent 'leach' resistance properties and solderability.

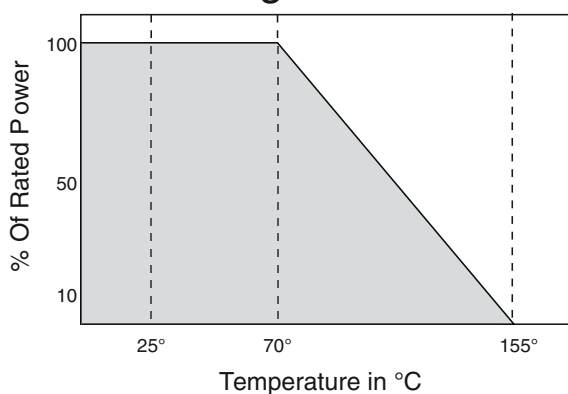
Marking:

Components are not marked. Reels are marked with type, value, tolerance, date code and quantity.

Solvent resistance:

The body protection is resistance to all normal industrial cleaning solvents suitable for printed circuits.

Power Derating Data



Ordering Data

Prefix..... **PWC** - **PWC** **2512LF** - **100R** - **F**

Chip Type.....
PWC

Chip Size and Termination.....
 0805 = Sn/Pb solder termination
 0805LF = 100% Tin (pb-free) termination
 1206 = Sn/Pb solder termination
 1206LF = 100% Tin (pb-free) termination
 2010 = Sn/Pb solder termination
 2010LF = 100% Tin (pb-free) termination
 2512 = Sn/Pb solder termination
 2512LF = 100% Tin (pb-free) termination

Resistance Value (Use IEC62 code).....

Tolerance Code.....
 J = ±5%; F = ±1%; D = ±0.5%

For additional information or to discuss your specific requirements, please contact our Applications Team using the contact details below.

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