



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

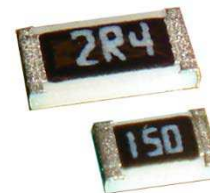
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Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



- Features:
- Excellent pulse withstanding performance
 - Broad resistance range
 - Higher anti-surge performance compared with RMCF Series
 - Lower values may be available – contact factory
 - 1% and wider tolerances are qualified to AEC-Q200
 - RoHS compliant



Electrical Specifications							
Type / Code	Power Rating (Watts) @ 70°C	Maximum Working Voltage	Maximum Overload Voltage	Resistance Temperature Coefficient	Ohmic Range (Ω) and Tolerance		
					0.5%	1%	5%, 10%, 20%
RPC0603	0.1W	50V	100V	±200 ppm/°C	10 - 294	1 - 294	1 - 270
				±100 ppm/°C	300 - 1M		
RPC0805	0.25W	150V	300V	±200 ppm/°C	10 - 294	1 - 294	1 - 270
				±100 ppm/°C	300 - 20M		
RPC1206	0.33W	200V	400V	±200 ppm/°C	10 - 20	1 - 20	
				±100 ppm/°C	20.5 - 20M		22 - 20M
RPC1210	0.5W	200V	400V	±200 ppm/°C	10 - 20	1 - 20	
				±100 ppm/°C	20.5 - 20M		22 - 20M
RPC2010	0.75W	400V	800V	±200 ppm/°C	10 - 20	1 - 20	
				±100 ppm/°C	20.5 - 20M		22 - 20M
RPC2512	1.5W	500V	1000V	±200 ppm/°C	10 - 20	1 - 20	
				±100 ppm/°C	20.5 - 20M		22 - 20M

Working Voltage = $v(P \cdot R)$ or Max. Working Voltage listed above, whichever is lower.

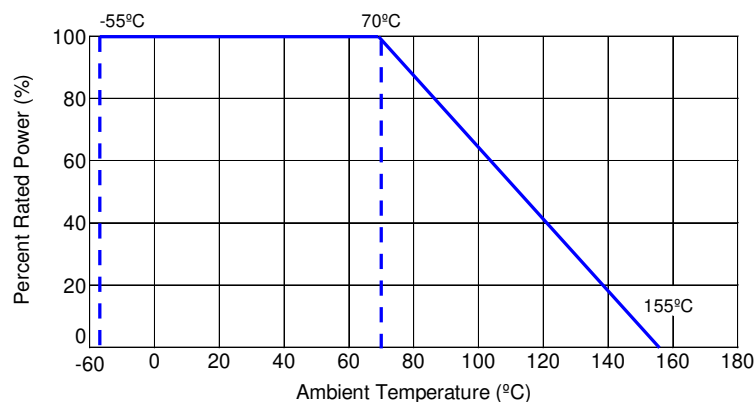
Overload Voltage = $2.5 \cdot v(P \cdot R)$ or Max. Overload Voltage listed above, whichever is lower.

Electrical Specifications – High Power							
Type / Code	Power Rating (Watts) @ 70°C	Maximum Working Voltage	Maximum Overload Voltage	Resistance Temperature Coefficient	Ohmic Range (Ω) and Tolerance		
					0.5%	1%	5%
RPC0603...-HP	0.2W	50V	100V	±200 ppm/°C	10 - 294	1 - 294	
				±100 ppm/°C	300 - 1M		
RPC1206...-HP	0.5W	200V	400V	±200 ppm/°C	10 - 20	1 - 20	
				±100 ppm/°C	20.5 - 20M		22 - 20M
RPC2010...-HP	1W	400V	800V	±200 ppm/°C	10 - 20	1 - 20	
				±100 ppm/°C	20.5 - 20M		22 - 20M

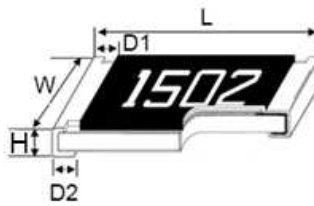
Working Voltage = $v(P \cdot R)$ or Max. Working Voltage listed above, whichever is lower.

Overload Voltage = $2.5 \cdot v(P \cdot R)$ or Max. Overload Voltage listed above, whichever is lower.

Power Derating Curve:



Mechanical Specifications



Type / Code	Weight (g) (1000 pcs)	L Body Length	W Body Width	H Body Height	D1 Top Termination	D2 Bottom Termination	Unit
RPC0603	2.042	0.063 ± 0.004 1.60 ± 0.10	0.031 ± 0.004 0.80 ± 0.10	0.018 ± 0.004 0.45 ± 0.10	0.012 ± 0.008 0.30 ± 0.20	0.012 ± 0.008 0.30 ± 0.20	inches mm
RPC0805	4.368	0.079 ± 0.004 2.00 ± 0.10	0.049 ± 0.004 1.25 ± 0.10	0.020 ± 0.004 0.50 ± 0.10	0.014 ± 0.008 0.35 ± 0.20	0.016 ± 0.008 0.40 ± 0.20	inches mm
RPC1206	8.947	0.122 ± 0.004 3.10 ± 0.10	0.061 ± 0.004 1.55 ± 0.10	0.022 ± 0.004 0.55 ± 0.10	0.020 ± 0.010 0.50 ± 0.25	0.020 ± 0.008 0.50 ± 0.20	inches mm
RPC1210	15.959	0.122 ± 0.004 3.10 ± 0.10	0.102 ± 0.006 2.60 ± 0.15	0.022 ± 0.004 0.55 ± 0.10	0.020 ± 0.010 0.50 ± 0.25	0.020 ± 0.008 0.50 ± 0.20	inches mm
RPC2010	24.241	0.197 ± 0.004 5.00 ± 0.10	0.098 ± 0.006 2.50 ± 0.15	0.022 ± 0.004 0.55 ± 0.10	0.024 ± 0.010 0.60 ± 0.25	0.020 ± 0.008 0.50 ± 0.20	inches mm
RPC2512	39.448	0.250 ± 0.004 6.35 ± 0.10	0.122 ± 0.006 3.10 ± 0.15	0.022 ± 0.004 0.55 ± 0.10	0.024 ± 0.010 0.60 ± 0.25	0.020 ± 0.008 0.50 ± 0.20	inches mm

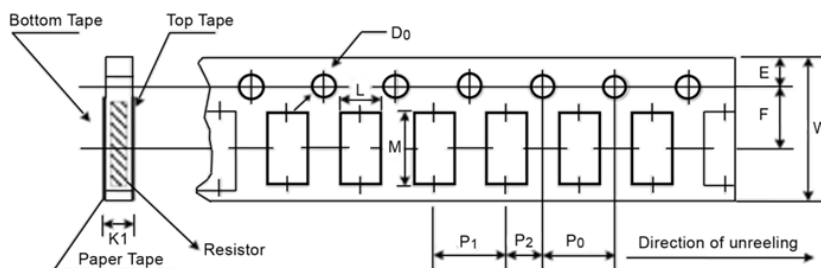
Performance Characteristics

Item	Test Method	Test Specification	Test Condition
Temperature Coefficient of Resistance (T.C.R.)	JIS-C-5201-1 4.8 IEC-60115-1 4.8	Within the specified tolerance	-55°C ~+125°C, 25°C is the reference temperature
Short Time Overload	JIS-C-5201-1 4.13 IEC-60115-1 4.13	±(1%+0.05Ω)	RCWV*2.5 or max. overload voltage whichever is lower for 5 seconds
Insulation Resistance	JIS-C-5201-1 4.6 IEC-60115-1 4.6	≥10G	Max. overload voltage for 1 minute
Endurance Tolerances of 0.5%, 1%	JIS-C-5201-1 4.25 IEC-60115-1 4.25.1	±(1%+0.05Ω)	70 ± 2°C, RCWV for 1000 hours with 1.5 hours "ON" and 0.5 hour "OFF"
Endurance Tolerances of 5%, 10%, 20%	JIS-C-5201-1 4.25 IEC-60115-1 4.25.1	±(3%+0.05Ω)	70 ± 2°C, RCWV for 1000 hours with 1.5 hours "ON" and 0.5 hour "OFF"
Damp Heat with Load Tolerances of 0.5%, 1%	JIS-C-5201-1 4.24	±(0.5%+0.05Ω)	40 ± 2°C, 90~95% R.H, RCWV for 1000 hour with 1.5 hours "ON" and 0.5 hour "OFF"
Damp Heat with Load Tolerances of 5%, 10%, 20%	JIS-C-5201-1 4.24	±(3%+0.05Ω)	40 ± 2°C, 90~95% R.H, RCWV for 1000 hours with 1.5 hours "ON" and 0.5 hour "OFF"
Dry Heat Tolerances of 0.5%, 1%	JIS-C-5201-1 4.23 IEC-60115-1 2.23.2	±(0.5%+0.05Ω)	At +155°C for 1000 hours
Dry Heat Tolerances of 5%, 10%, 20%	JIS-C-5201-1 4.23 IEC-60115-1 2.23.2	±(3%+0.05Ω)	At +155°C for 1000 hours
Bending Strength	JIS-C-5201-1 4.33 IEC-60115-1 4.33	±(1%+0.05Ω)	Bending once for 5 seconds 2010, 2512 sizes: 2mm; other sizes: 3mm
Solderability	JIS-C-5201-1 4.17 IEC-60115-1 4.17	95% min. coverage	245 ± 5°C for 3 seconds
Resistance to Soldering Heat tolerances of 0.5%, 1%	JIS-C-5201-1 4.18 IEC-60115-1 4.18	±(0.5%+0.05Ω)	260 ± 5°C for 10 seconds
Resistance to Soldering Heat tolerances of 5%, 10%, 20%	JIS-C-5201-1 4.18 IEC-60115-1 4.18	±(1%+0.05Ω)	260 ± 5°C for 10 seconds

Performance Characteristics (cont.)			
Item	Test Method	Test Specification	Test Condition
Voltage Proof	JIS-C-5201-1 4.7 IEC-60115-1 4.7	No Breakdown or flashover	1.42 times max. operating voltage for 1 minute
Leaching	JIS-C-5201-1 4.18 IEC-60068-2-58-8.2.1	Individual leaching area $\leq 5\%$ Total leaching area $\leq 10\%$	260 \pm 5°C for 30 seconds
Rapid Change of Temperature tolerances of 0.5%, 1%	JIS-C-5201-1 4.18 IEC-60115-1 4.18	$\pm(0.5\%+0.05\Omega)$	-55°C to + 150°C , 5 cycles
Rapid Change of Temperature tolerances of 5%, 10%, 20%	JIS-C-5201-1 4.18 IEC-60115-1 4.18	$\pm(1\%+0.05\Omega)$	-55°C to + 150°C , 5 cycles

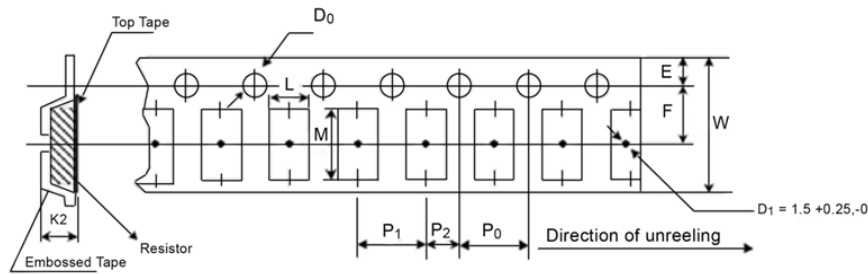
RCWV (Rated Continuous Working Voltage)= $v(P \cdot R)$ or Max. Working Voltage whichever is Storage Temperature: 25 \pm 3°C; humidity < 80% R.H.

Packaging Specifications - Paper Tape



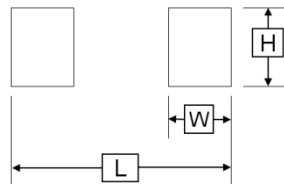
Type	L	M	W	E	F	Unit
RPC0603	0.043 \pm 0.004 1.10 \pm 0.10	0.075 \pm 0.004 1.90 \pm 0.10	0.315 \pm 0.008 8.00 \pm 0.20	0.069 \pm 0.004 1.75 \pm 0.10	0.138 \pm 0.002 3.50 \pm 0.05	inches mm
RPC0805	0.063 \pm 0.004 1.60 \pm 0.10	0.094 \pm 0.008 2.40 \pm 0.20	0.315 \pm 0.008 8.00 \pm 0.20	0.069 \pm 0.004 1.75 \pm 0.10	0.138 \pm 0.002 3.50 \pm 0.05	inches mm
RPC1206	0.075 \pm 0.004 1.90 \pm 0.10	0.138 \pm 0.008 3.50 \pm 0.20	0.315 \pm 0.008 8.00 \pm 0.20	0.069 \pm 0.004 1.75 \pm 0.10	0.138 \pm 0.002 3.50 \pm 0.05	inches mm
RPC1210	0.110 \pm 0.004 2.80 \pm 0.10	0.138 \pm 0.008 3.50 \pm 0.20	0.315 \pm 0.008 8.00 \pm 0.20	0.069 \pm 0.004 1.75 \pm 0.10	0.138 \pm 0.002 3.50 \pm 0.05	inches mm
Type	P ₀	P ₁	P ₂	ØD ₀	K1/K2	Unit
RPC0603	0.157 \pm 0.004 4.00 \pm 0.10	0.157 \pm 0.394 4.00 \pm 10.00	0.079 \pm 0.002 2.00 \pm 0.05	0.059 \pm 0.004 1.50 \pm 0.10	0.028 \pm 0.004 0.70 \pm 0.10	inches mm
RPC0805	0.157 \pm 0.004 4.00 \pm 0.10	0.157 \pm 0.394 4.00 \pm 10.00	0.079 \pm 0.002 2.00 \pm 0.05	0.059 \pm 0.004 1.50 \pm 0.10	0.033 \pm 0.004 0.85 \pm 0.10	inches mm
RPC1206	0.157 \pm 0.004 4.00 \pm 0.10	0.157 \pm 0.394 4.00 \pm 10.00	0.079 \pm 0.002 2.00 \pm 0.05	0.059 \pm 0.004 1.50 \pm 0.10	0.033 \pm 0.004 0.85 \pm 0.10	inches mm
RPC1210	0.157 \pm 0.004 4.00 \pm 0.10	0.157 \pm 0.394 4.00 \pm 10.00	0.079 \pm 0.002 2.00 \pm 0.05	0.059 \pm 0.004 1.50 \pm 0.10	0.033 \pm 0.004 0.85 \pm 0.10	inches mm

Packaging Specifications – Embossed Plastic Tape



Type	L	M	W	E	F	Unit
RPC2010	0.110 ± 0.008 2.80 ± 0.20	0.217 ± 0.008 5.50 ± 0.20	0.472 ± 0.012 12.00 ± 0.30	0.069 ± 0.004 1.75 ± 0.10	0.217 ± 0.002 5.50 ± 0.05	inches mm
RPC2512	0.138 ± 0.008 3.50 ± 0.20	0.264 ± 0.008 6.70 ± 0.20	0.472 ± 0.012 12.00 ± 0.30	0.069 ± 0.004 1.75 ± 0.10	0.217 ± 0.002 5.50 ± 0.05	inches mm
Type	P ₀	P ₁	P ₂	ØD ₀	K ₁ /K ₂	Unit
RPC2010	0.157 ± 0.004 4.00 ± 0.10	0.157 ± 0.394 4.00 ± 10.00	0.079 ± 0.002 2.00 ± 0.05	0.059 ± 0.004 1.50 ± 0.10	0.047 - 0.000 1.20 - 0.00	inches mm
RPC2512	0.157 ± 0.004 4.00 ± 0.10	0.157 ± 0.394 4.00 ± 10.00	0.079 ± 0.002 2.00 ± 0.05	0.059 ± 0.004 1.50 ± 0.10	0.047 - 0.000 1.20 - 0.00	inches mm

Solder Land Pattern



SIZE	L	H	W	Unit
RPC0201	0.031 0.79	0.017 0.43	0.011 0.28	inches mm
RPC0402	0.051 1.30	0.024 0.60	0.016 0.40	inches mm
RPC0603	0.079 2.00	0.035 0.90	0.020 0.50	inches mm
RPC0805	0.102 2.60	0.051 1.30	0.028 0.70	inches mm
RPC1206	0.150 3.80	0.067 1.70	0.035 0.90	inches mm
RPC1210	0.150 3.80	0.098 2.50	0.035 0.90	inches mm
RPC2010	0.232 5.90	0.098 2.50	0.039 1.00	inches mm
RPC2512	0.283 7.20	0.126 3.20	0.039 1.00	inches mm

How to Order

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

R P C 1 2 0 6 F T 1 R 2 0 - H P

Product Series		Size	Power	Tolerance			Packaging				Resistance Value		Special	
Code	Description			Code	Tol	Value	Code	Description	Size	Quantity	Four characters with the multiplier used as the decimal holder. 300 ohm = 300R 10.2 Kohm = 10K2 1 Mohm = 1M00		Code	Description
RPC	Pulse Withstanding	0603	0.1W	D	0.5%	E96	T	7" Reel Paper Tape	0603	5,000			HP	High Power
		0805	0.25W	F	1%	E24			0805					
		1206	0.33W	J	5%				1206					
		1206(HP)	0.5W	K	10%	E24	T	7" Reel Plastic Tape	2010	4,000				
		1210	0.5W	M	20%				1210					
		2010	0.75W				G	10" Reel Paper Tape	0805	10,000				
		2010(HP)	1W						1206					
		2512	1.5W											

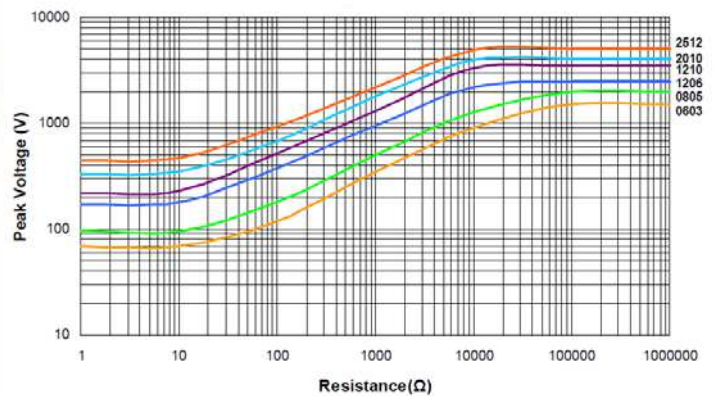
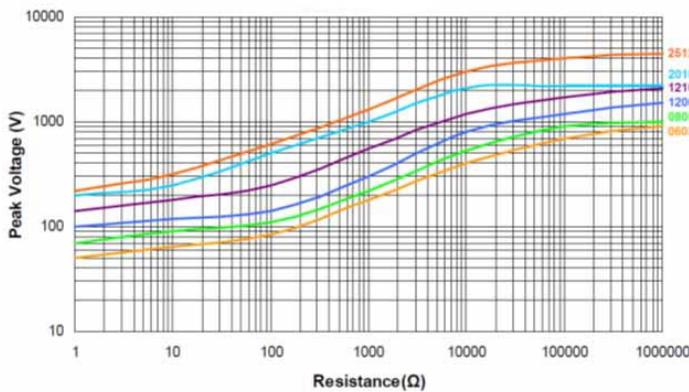
Lightning Surge

Resistors are tested in accordance with IEC 60115-1 using both 1.2/50us and 10/700 pulse shapes. The limit of acceptance is a shift in resistance of less than 1% from the initial value.

1. 1.2/50us Lightning Surge

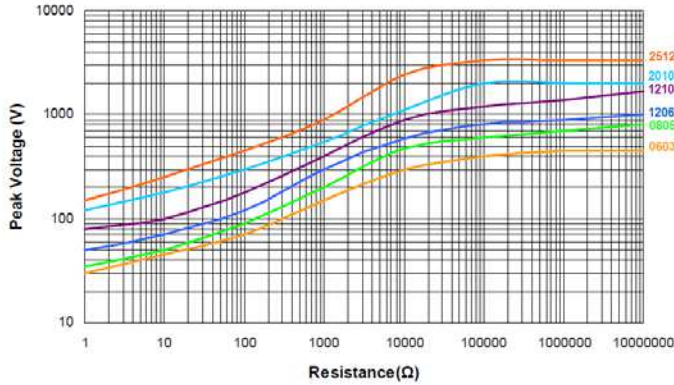
RPC-HP (High Power) All Tolerances
RPC (Std. Power) Tolerances of 0.5% and 1%

RPC (Std. Power)
Tolerances of 5%, 10% and 20%

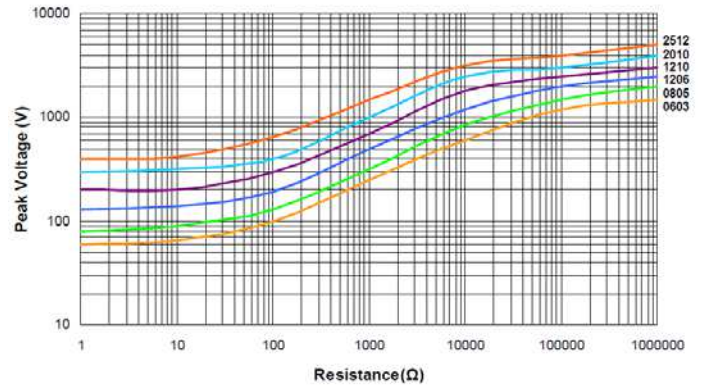


2. 10/700us Lightning Surge

RPC-HP (High Power) All Tolerances
RPC (Std. Power) Tolerances of 0.5% and 1%



RPC (Std. Power)
Tolerances of 5%, 10% and 20%

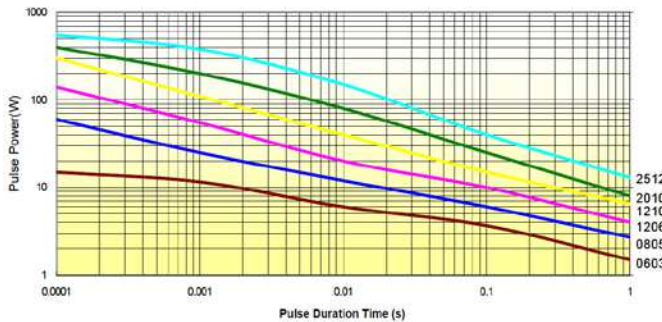


Pulse Withstand Capacity

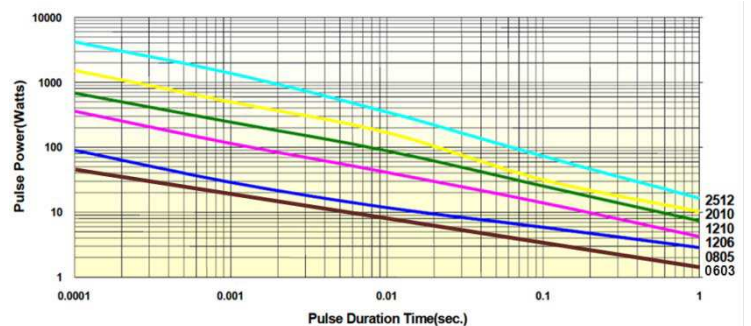
The single impulse graph is the result of 50 impulses of rectangular shape applied at one minute intervals. The limit of acceptance was a shift in resistance of less than 1% from the initial value. The power applied was subject to the restrictions of the maximum permissible impulse voltage graph shown.

Single Pulse Power (100 Ohm)

RPC-HP (High Power) All Tolerances
RPC (Std. Power) Tolerances of 0.5% and 1%



RPC (Std. Power)
Tolerances of 5%, 10% and 20%

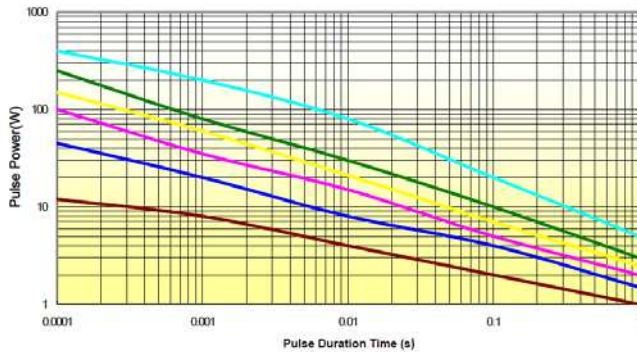


Continuous Pulse

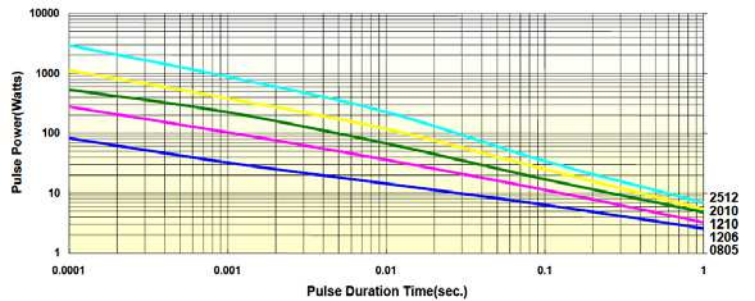
The continuous load graph was obtained by applying repetitive rectangular pulses where the pulse period was adjusted so that the average power dissipated in the resistor was equal to its rated power at 70°C. Again the limit of acceptance was a shift in resistance of less than 1% from the initial value.

Continuous Pulse Power (100 Ohm)

RPC-HP (High Power) All Tolerances
RPC (Std. Power) Tolerances of 0.5% and 1%

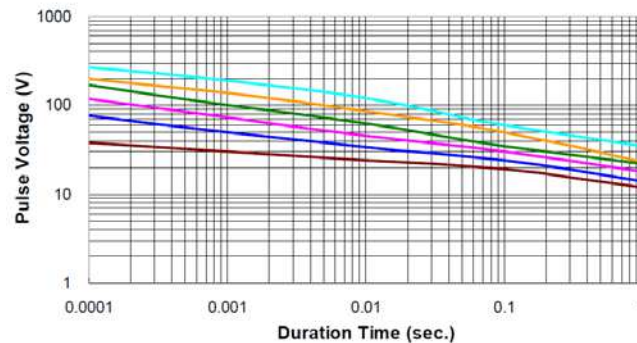


RPC (Std. Power)
Tolerances of 5%, 10% and 20%



Pulse Voltage (100 Ohm)

RPC-HP (High Power) All Tolerances
RPC (Std. Power) Tolerances of 0.5% and 1%



RPC (Std. Power)
Tolerances of 5%, 10% and 20%

