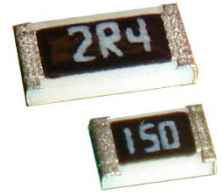


- Features:
- Excellent pulse withstanding performance
 - Broad resistance range
 - Higher anti-surge performance compared with RMCF Series
 - Lower values may be available – contact factory
 - 1% and wider tolerances are qualified to AEC-Q200
 - RoHS compliant



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 ±100 ppm/°C	10 - 294 300 - 1M	1 - 294 300 - 1M	1 - 270 300 - 1M
RPC0805	0.25W	150V	300V	±200 ppm/°C ±100 ppm/°C	10 - 294 300 - 20M	1 - 294 300 - 20M	1 - 270 300 - 20M
RPC1206	0.33W	200V	400V	±200 ppm/°C ±100 ppm/°C	10 - 20 20.5 - 20M	1 - 20 20.5 - 20M	1 - 20 22 - 20M
RPC1210	0.5W	200V	400V	±200 ppm/°C ±100 ppm/°C	10 - 20 20.5 - 20M	1 - 20 20.5 - 20M	1 - 20 22 - 20M
RPC2010	0.75W	400V	800V	±200 ppm/°C ±100 ppm/°C	10 - 20 20.5 - 20M	1 - 20 20.5 - 20M	1 - 20 22 - 20M
RPC2512	1.5W	500V	1000V	±200 ppm/°C ±100 ppm/°C	10 - 20 20.5 - 20M	1 - 20 20.5 - 20M	1 - 20 22 - 20M

Working Voltage = $\sqrt{P \cdot R}$ or Max. Working Voltage listed above, whichever is lower.

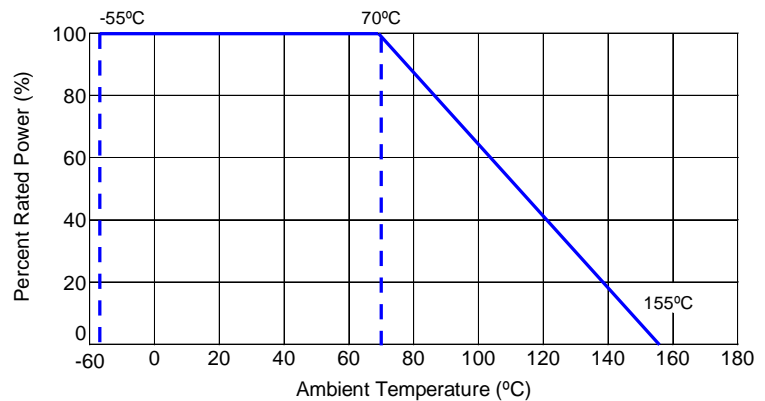
Overload Voltage = $2.5 \cdot \sqrt{P \cdot R}$ or Max. Overload Voltage listed above, whichever is lower.

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

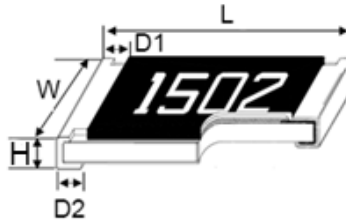
Working Voltage = $\sqrt{P \cdot R}$ or Max. Working Voltage listed above, whichever is lower.

Overload Voltage = $2.5 \cdot \sqrt{P \cdot R}$ or Max. Overload Voltage listed above, whichever is lower.

Power Derating Curve:



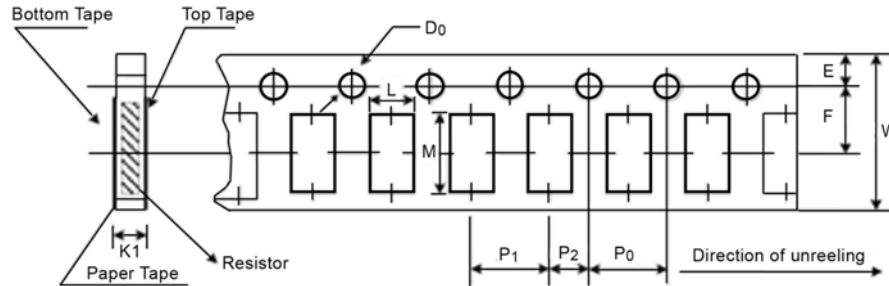
Mechanical Specifications



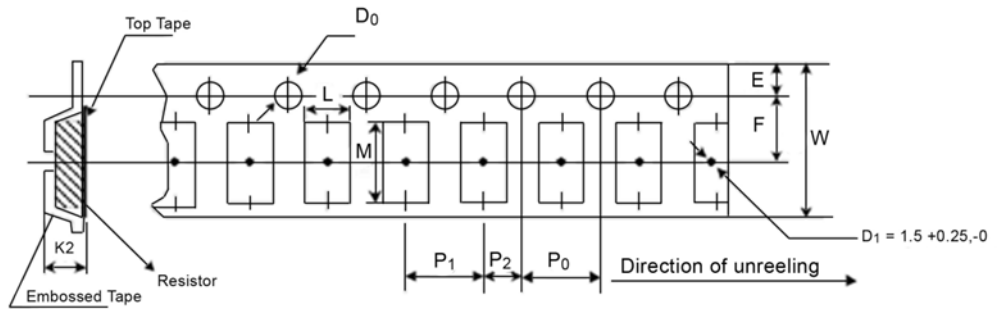
Type / Code	Weight (g) (1000 pcs)	L Body Length	W Body Width	H Body Height	D1 Top Termination	D2 Bottom Termination	Unit
RPC0603	2.042	0.063 ± 0.004 1.60 ± 0.10	0.031 ± 0.004 0.80 ± 0.10	0.018 ± 0.004 0.45 ± 0.10	0.012 ± 0.008 0.30 ± 0.20	0.012 ± 0.008 0.30 ± 0.20	inches mm
RPC0805	4.368	0.079 ± 0.004 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

Packaging Specifications

Paper Tape Specifications



Embossed Plastic Tape Specifications



Type	L	M	W	E	F	Unit
RPC0603	0.043 ± 0.004 1.10 ± 0.10	0.075 ± 0.004 1.90 ± 0.10	0.315 ± 0.008 8.00 ± 0.20	0.069 ± 0.004 1.75 ± 0.10	0.138 ± 0.002 3.50 ± 0.05	inches mm
RPC0805	0.063 ± 0.004 1.60 ± 0.10	0.094 ± 0.008 2.40 ± 0.20	0.315 ± 0.008 8.00 ± 0.20	0.069 ± 0.004 1.75 ± 0.10	0.138 ± 0.002 3.50 ± 0.05	inches mm
RPC1206	0.075 ± 0.004 1.90 ± 0.10	0.138 ± 0.008 3.50 ± 0.20	0.315 ± 0.008 8.00 ± 0.20	0.069 ± 0.004 1.75 ± 0.10	0.138 ± 0.002 3.50 ± 0.05	inches mm
RPC1210	0.110 ± 0.004 2.80 ± 0.10	0.138 ± 0.008 3.50 ± 0.20	0.315 ± 0.008 8.00 ± 0.20	0.069 ± 0.004 1.75 ± 0.10	0.138 ± 0.002 3.50 ± 0.05	inches mm
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	∅D ₀	K ₁ /K ₂	Unit
RPC0603	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	0.028 ± 0.004 0.70 ± 0.10	inches mm
RPC0805	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	0.033 ± 0.004 0.85 ± 0.10	inches mm
RPC1206	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	0.033 ± 0.004 0.85 ± 0.10	inches mm
RPC1210	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	0.033 ± 0.004 0.85 ± 0.10	inches mm
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

Performance Characteristics		
Item	Requirement	Test Method
Temperature Coefficient of Resistance (T.C.R.)	As specified	JIS-C-5201-1 4.8 IEC-60115-1 4.8 -55°C ~+ 125°C, 25°C is the reference temperature
Short Time Overload	±(1%+0.05Ω)	JIS-C-5201-1 4.13 IEC-60115-1 4.13 RCWV*2.5 or max. overload voltage whichever is lower for 5 seconds
Insulation Resistance	≥10G	JIS-C-5201-1 4.6 IEC-60115-1 4.6 Max. overload voltage for 1 minute
Endurance Tolerances of 0.5% 1%	±(1%+0.05Ω)	JIS-C-5201-1 4.25 IEC-60115-1 4.25.1 70 ± 2°C, RCWV for 1000 h. with 1.5 h. "ON" and 0.5 h. "OFF"
Endurance Tolerances of 5%, 10%, 20%	±(3%+0.05Ω)	JIS-C-5201-1 4.25 IEC-60115-1 4.25.1 70 ± 2°C, RCWV for 1000 h. with 1.5 h. "ON" and 0.5 h. "OFF"
Damp Heat with Load Tolerances of 0.5%, 1%	±(0.5%+0.05Ω)	JIS-C-5201-1 4.24 40 ± 2°C, 90~95% R.H., RCWV for 1000 h. with 1.5 h. "ON" and 0.5 h. "OFF"
Damp Heat with Load Tolerances of 5%, 10%, 20%	±(3%+0.05Ω)	JIS-C-5201-1 4.24 40 ± 2°C, 90~95% R.H., RCWV for 1000 h. with 1.5 h. "ON" and 0.5 h. "OFF"
Dry Heat Tolerances of 0.5%, 1%	±(0.5%+0.05Ω)	JIS-C-5201-1 4.23 IEC-60115-1 2.23.2 at +155°C for 1000 h.
Dry Heat Tolerances of 5%, 10%, 20%	±(3%+0.05Ω)	JIS-C-5201-1 4.23 IEC-60115-1 2.23.2 at +155°C for 1000 h.
Bending Strength	±(1%+0.05Ω)	JIS-C-5201-1 4.33 IEC-60115-1 4.33 Bending once for 5 seconds 2010, 2512 sizes: 2mm, other sizes: 3mm
Solderability	95% min. coverage	JIS-C-5201-1 4.17 IEC-60115-1 4.17 245 ± 5°C for 3 s.
Resistance to Soldering Heat tolerances of 0.5%, 1%	±(0.5%+0.05Ω)	JIS-C-5201-1 4.18 IEC-60115-1 4.18 260 ± 5°C for 10 s.
Resistance to Soldering Heat tolerances of 5%, 10%, 20%	±(1%+0.05Ω)	JIS-C-5201-1 4.18 IEC-60115-1 4.18 260 ± 5°C for 10 s.
Voltage Proof	No breakdown or flashover	JIS-C-5201-1 4.7 IEC-60115-1 4.7 1.42 times max. operating voltage for 1 m.
Leaching	Individual leaching area ≤5% Total leaching area ≤10%	JIS-C-5201-1 4.18 IEC-60068-2-58 8.2.1 260 ± 5°C for 30 s.
Rapid Change of Temperature tolerances of 0.5%, 1%	±(0.5%+0.05Ω)	JIS-C-5201-1 4.18 IEC-60115-1 4.18 -55°C to + 155°C , 5 cycles
Rapid Change of Temperature tolerances of 5%, 10%, 20%	±(1%+0.05Ω)	JIS-C-5201-1 4.18 IEC-60115-1 4.18 -55°C to + 155°C , 5 cycles

RCWV (Rated Continuous Working Voltage)= $v(P^*R)$ or Max. Working Voltage whichever is lower.

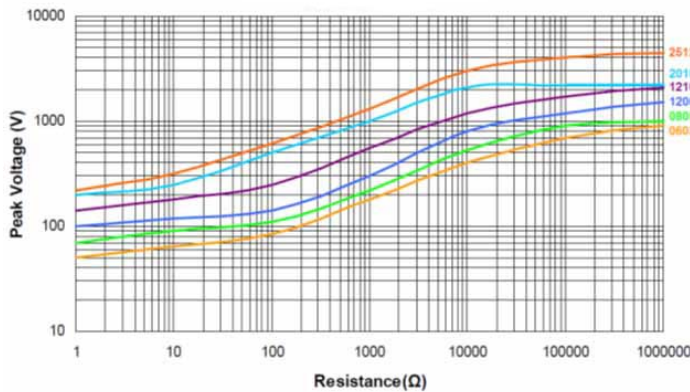
Storage Temperature: 25±3°C; humidity < 80% R.H.

Lightning Surge

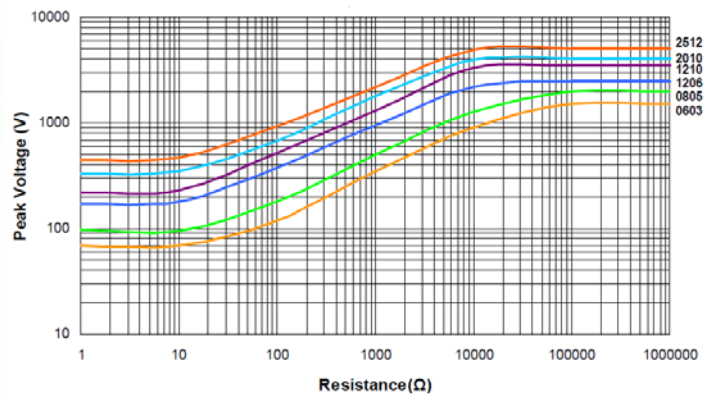
Resistors are tested in accordance with IEC 60115-1 using both 1.2/50us and 10/700 pulse shapes. The limit of acceptance is a shift in resistance of less than 1% from the initial value.

1. 1.2/50us Lightning Surge

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

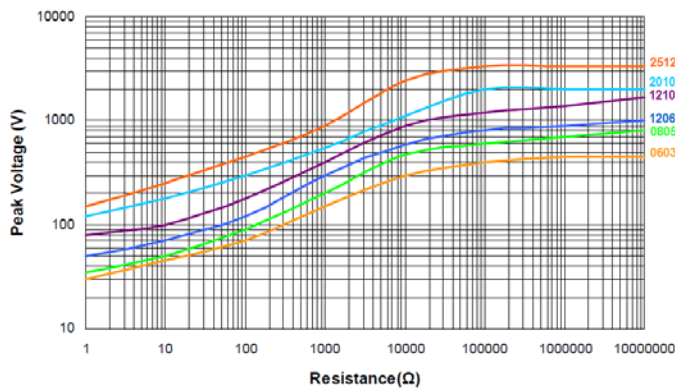


RPC
Tolerances of 5%, 10% and 20%

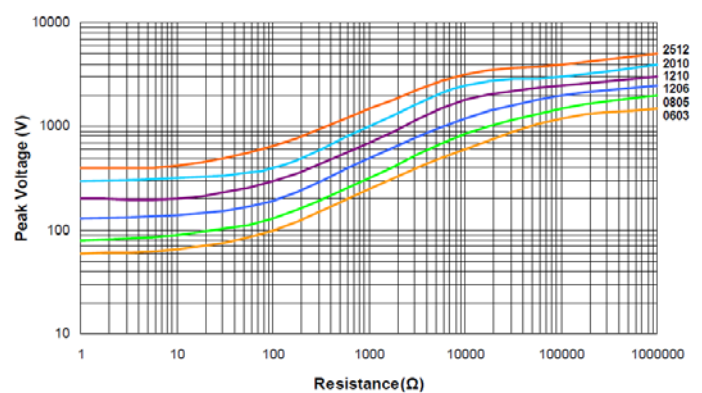


2. 10/700us Lightning Surge

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



RPC
Tolerances of 5%, 10% and 20%



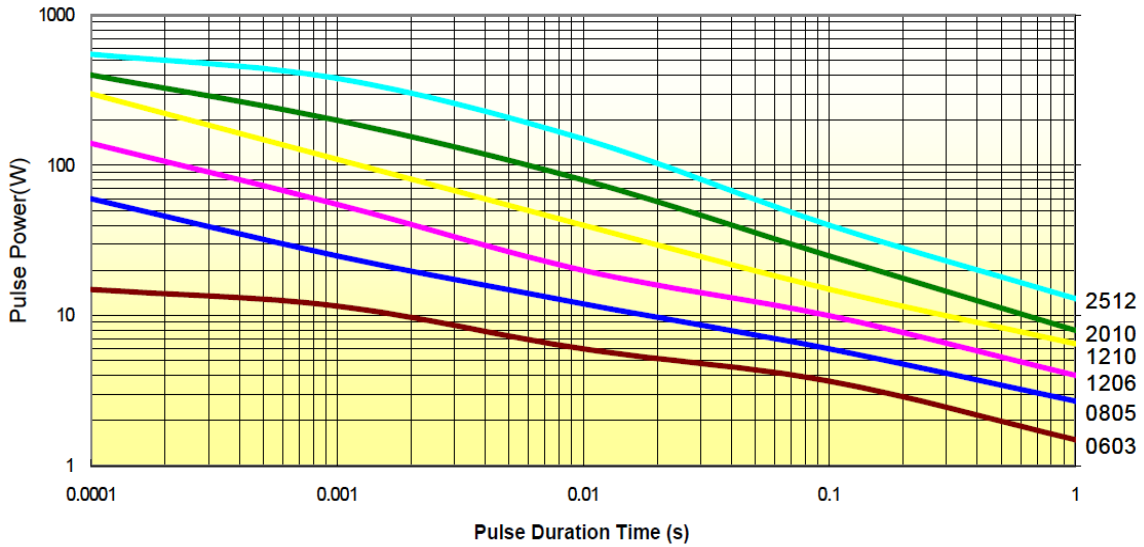
Pulse Withstand Capacity

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)

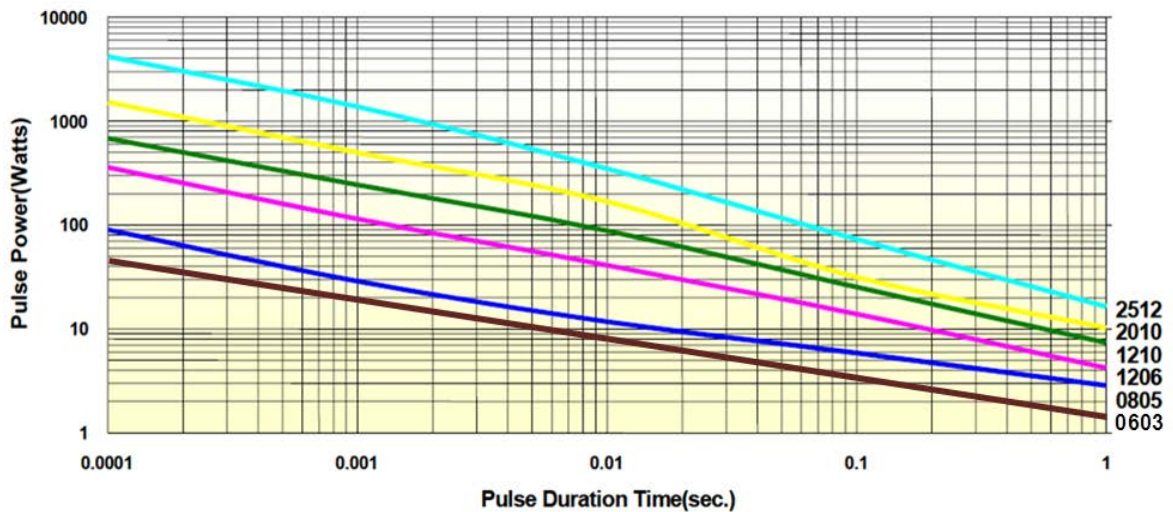
RPC-HP (High Power):

Tolerances of 0.5% and 1%



RPC:

Tolerances of 5%, 10% and 20%

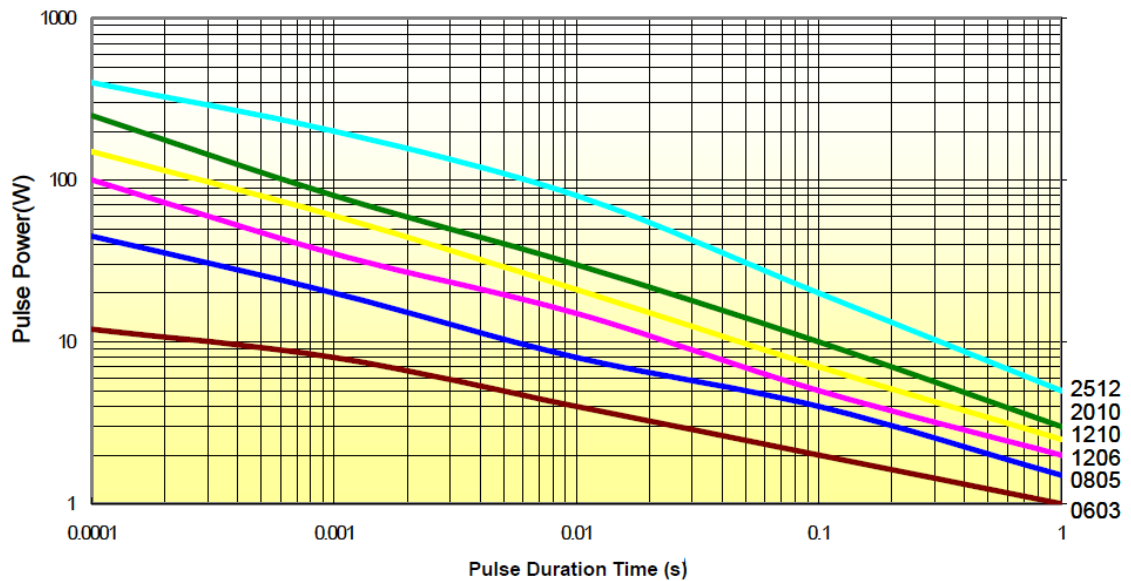


Continuous Pulse

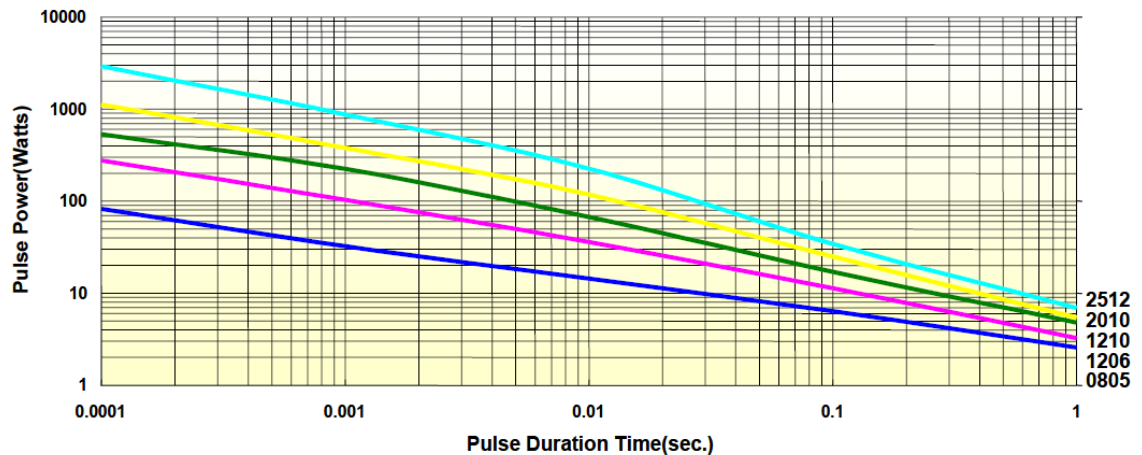
The continuous load graph was obtained by applying repetitive rectangular pulses where the pulse period was adjusted so that the average power dissipated in the resistor was equal to its rated power at 70°C. Again the limit of acceptance was a shift in resistance of less than 1% from the initial value.

Continuous Pulse Power (100 Ohm)

RPC-HP (High Power):
Tolerances of 0.5% and 1%

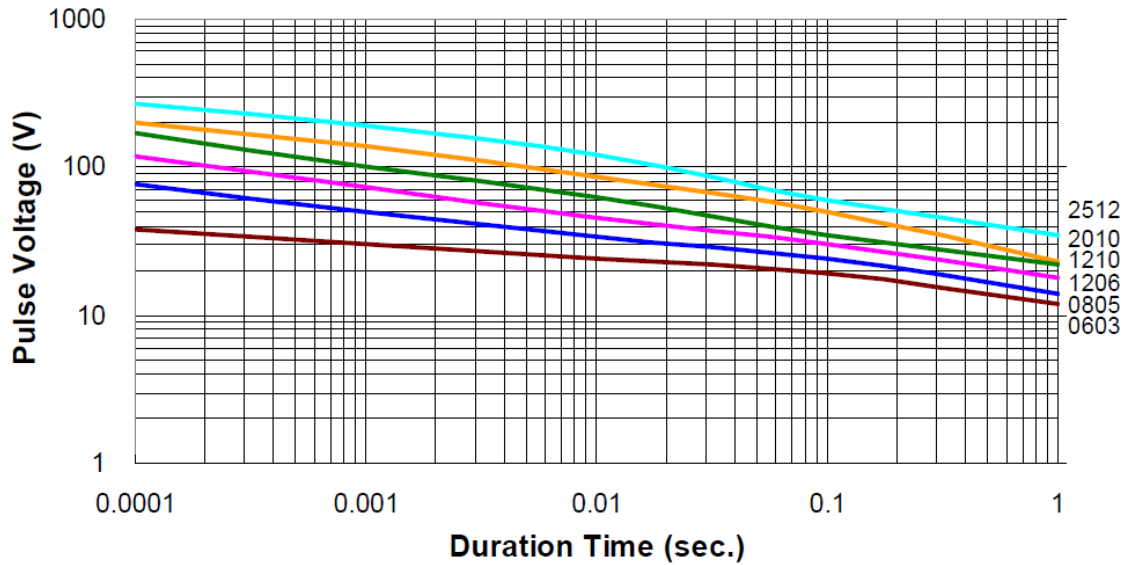


RPC:
Tolerances 5%, 10% and 20%

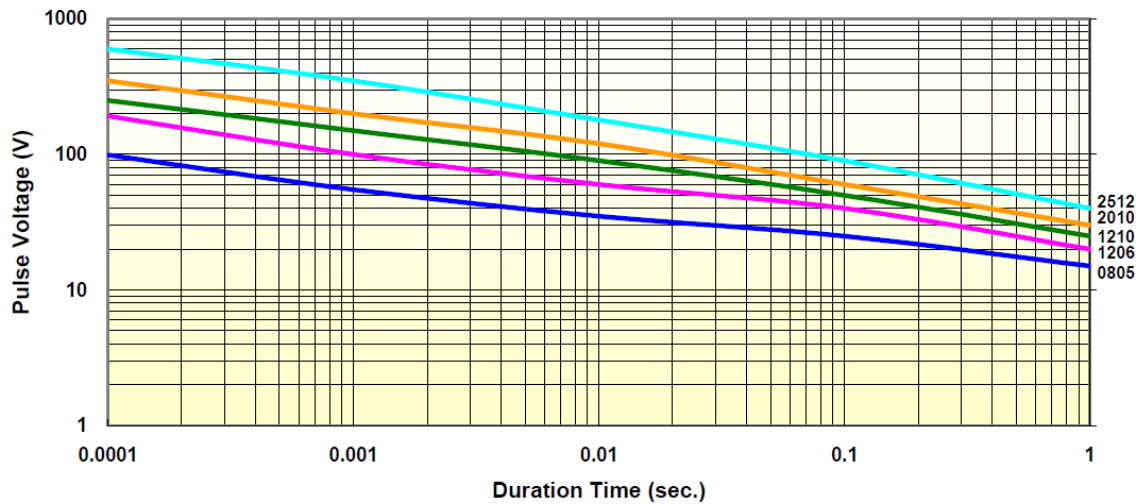


Pulse Voltage (100 Ohm)

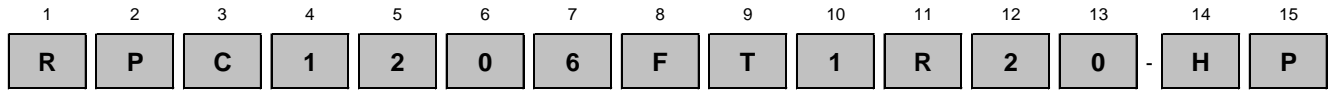
RPC-HP (High Power):
Tolerances of 0.5% and 1%



RPC:
Tolerances of 5%, 10% and 20%



How to Order



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

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[RNV14FAL4M70](#) [CFM14JT180R](#) [EWT225JB2R00](#) [EWT225JB100R](#) [EWT50JB1K00](#) [RSF1JT33K0](#) [CSR0603FKR250](#)
[RNCS1206BKE1M00](#) [TR35JBL2R20](#) [KIT-RMCF0201FT-06](#) [RSMF3JT1R00](#) [RMCF0201FT1K00](#) [EWT225JB3R00](#) [EWT100JB5K00](#)
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[RMCF0805FT32K4](#)