

# RPC Series

Pulse Withstanding Thick Film Chip Resistor

Stackpole Electronics, Inc.

Resistive Product Solutions

- Features:
- Excellent pulse withstanding performance
  - Broad resistance range
  - Higher anti-surge performance compared with RMC Series
  - Stability class: 5%
  - RoHS compliant / lead-free

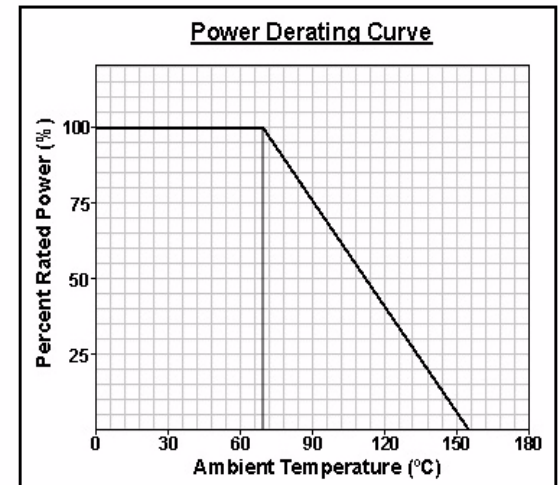
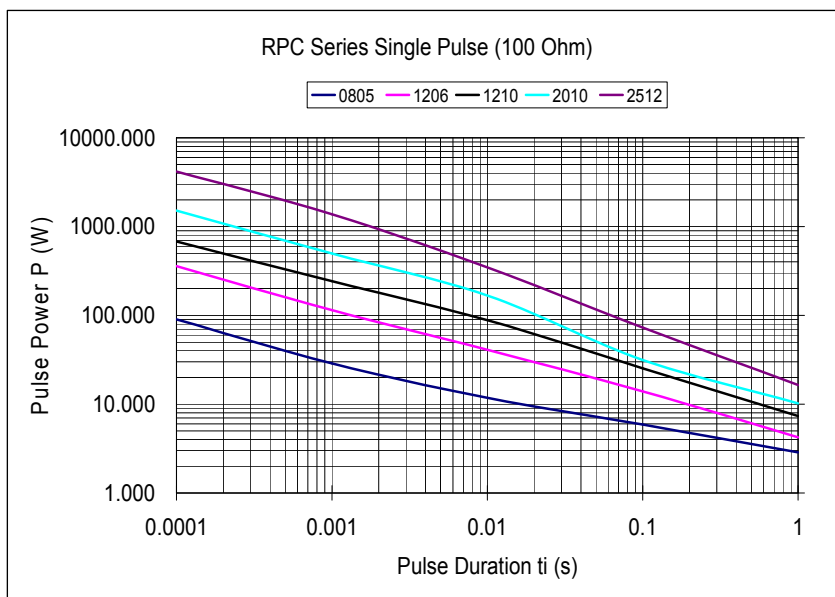


Electrical Specifications				
Type / Code	Power Rating (Watts) @ 70°C	Maximum Working Voltage (1)	Resistance Temperature Coefficient	Ohmic Range (Ω) and Tolerance 5%, 10%, 20% (2)
RPC 0603	0.100W	50V	±200 ppm/°C	10 - 1M
RPC 0805	0.250W	150V	±200 ppm/°C	0.27 - 22M
RPC 1206	0.330W	200V	±200 ppm/°C	
RPC 1210	0.500W	200V	±200 ppm/°C	
RPC 2010	0.750W	200V	±200 ppm/°C	
RPC 2512	1.000W	200V	±200 ppm/°C	

(1) Lesser of  $\sqrt{PR}$  or maximum working voltage

(2) 1% and 0.5% tolerances may be available. Contact factory for details and pulse handling information.

Higher power rating for each package size is valid if ambient temperature is  $\leq 80^\circ\text{C}$  and terminal temperature is  $\leq 105^\circ\text{C}$



## How to Order

SEI Type	Code	Nominal Resistance	Tolerance	Packaging
<b>RPC</b>	<b>0805</b>	<b>10M</b>	<b>5%</b>	<b>A</b>

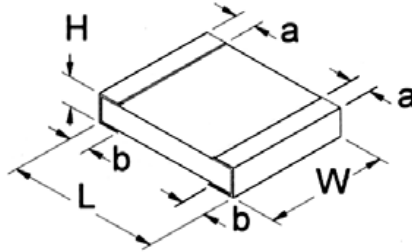
Type	Description	Code	Wattage
RPC	Pulse Withstanding	0603	0.100W
		0805	0.250W
		1206	0.330W
		1210	0.500W
		2010	0.750W
		2512	1.000W

Tolerance	Values
5%	E24
10%	
20%	

SEI Types	Pkg Qty	Description	Code
0603	5,000	7" Reel - Paper	R
0805, 1206	10,000	10" Reel - Paper	G
	5,000	7" Reel - Paper	R
1210, 2010, 2512	4,000		



Mechanical Specifications						
Type / Code	L Body Length	W Body Width	H Body Height	a Top Termination	b Bottom Termination	Units
RPC 0603	0.063 ± 0.004	0.032 ± 0.004	0.018 ± 0.004	0.012 ± 0.008	0.012 ± 0.008	inches
	1.60 ± 0.10	0.80 ± 0.10	0.45 ± 0.10	0.30 ± 0.20	0.30 ± 0.20	mm
RPC 0805	0.079 ± 0.004	0.049 ± 0.004	0.021 ± 0.004	0.012 ± 0.008	0.016 ± 0.008	inches
	2.00 ± 0.10	1.25 ± 0.10	0.55 ± 0.10	0.30 ± 0.20	0.40 ± 0.20	mm
RPC 1206	0.126 ± 0.006	0.063 ± 0.006	0.021 ± 0.004	0.012 ± 0.008	0.020 ± 0.010	inches
	3.20 ± 0.15	1.60 ± 0.15	0.55 ± 0.10	0.30 ± 0.20	0.50 ± 0.25	mm
RPC 1210	0.126 ± 0.006	0.098 ± 0.006	0.021 ± 0.006	0.012 ± 0.008	0.020 ± 0.010	inches
	3.20 ± 0.15	2.50 ± 0.15	0.55 ± 0.15	0.30 ± 0.20	0.50 ± 0.25	mm
RPC 2010	0.197 ± 0.006	0.098 ± 0.006	0.021 ± 0.006	0.012 ± 0.008	0.024 ± 0.008	inches
	5.00 ± 0.15	2.50 ± 0.15	0.55 ± 0.15	0.30 ± 0.20	0.60 ± 0.20	mm
RPC 2512	0.248 ± 0.006	0.126 ± 0.006	0.021 ± 0.006	0.012 ± 0.008	0.024 ± 0.008	inches
	6.30 ± 0.15	3.20 ± 0.15	0.55 ± 0.15	0.30 ± 0.20	0.60 ± 0.20	mm

Performance Characteristics		
Test	Test Methods (JIS C 5201-1 : 1198)	Test Results
Voltage Proof	Clause 4.7 500Va.a., 60s	No breakdown or flashover R ≥ 1G Ohm
Variation of Resistance with Temperature	Clause 4.8 +20°C/ -55°C / +20°C/ +125°C/ +20°C: RPC 2010, 2512 +20°C/ -55°C/ +20°C/ +155°C/ +20°C: RPC 0603, 0805, 1206, 1210	See ratings table
Overload	Clause 4.13 The applied voltage shall be 2.5 times of the rated voltage or twice of the limiting element voltage, whichever is the less severe, 2s.	$\Delta R \leq \pm 1\% + 0.05\Omega$ No visible damage, legible markings
Solderability	Clause 4.17 235°C, 2s.	In accordance with Clause 4.17.4.5
Resistance to Soldering Heat	Clause 4.18 After immersion into the flux, the immersion into solder shall be carried out in solder bath at 260° for 5s.	$\Delta R \leq \pm 1\% + 0.05\Omega$
Rapid Change of Temperature	Clause 4.19 Cycle: -55°C/ +125°C 5 times: RPC 2010, 2512 Cycle: -55°C/ +155°C 5 times: RPC 0603, 0805, 1206, 1210	$\Delta R \leq \pm 1\% + 0.05\Omega$ No visible damage
Climatic Sequence	Clause 4.23 Dry/Damp heat (12+12h cycle), first cycle/ Cold/Damp heat (12+12h cycle), remaining cycle / D.C. Load	$\Delta R \leq \pm 5\% + 0.1\Omega$ No visible damage
Damp Test, Steady State	Clause 4.24 40°C, 95% R.H., 56 days, test a) and b) of Clause 4.24.2.1	$\Delta R \leq \pm 5\% + 0.1\Omega$ No visible damage, legible markings
Endurance @ 70°C	Clause 4.25.1 Rated voltage, 1.5h "ON", 0.5h "OFF", 70°C, 1,000h	$\Delta R \leq \pm 5\% + 0.1\Omega$ No visible damage
Endurance at the Upper Category Temperature	Clause 4.25.3 125°C, no load, 1,000h: RPC 2010, 2512 155°C, no load, 1,000h: RPC 0603, 0805, 1206, 1210	$\Delta R \leq \pm 5\% + 0.1\Omega$ No visible damage
Adhesion	Clause 4.32 5N, 10s	No visible damage
Bend of Strength of the Face Plating	Clause 4.33 Amount of bend: 3mm RPC 0603, 0805, 1206, 1210 Amount of bend: 1mm RPC 2010, 2512	$\Delta R \leq \pm 1\% + 0.05\Omega$

Operating Temperature Range: -55°C to +125°C