RPC Series — Pulse Withstanding Thick Film Chip Resistor

SEI

Features

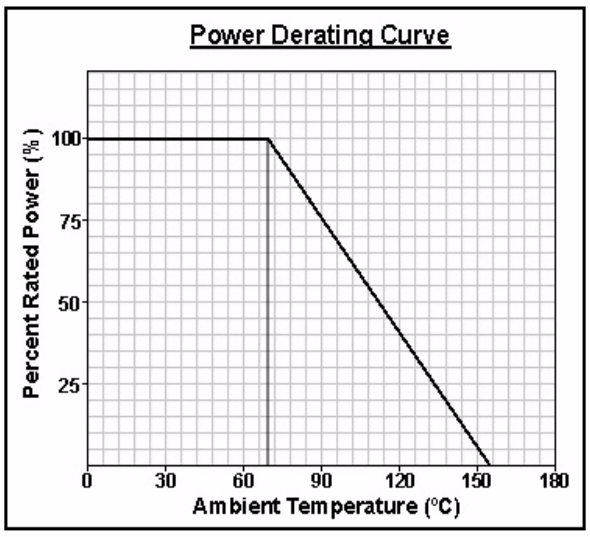
- Excellent pulse withstanding performance
- Broad resistance range
- Higher anti-surge performance compared with RMC series
- Stability class: 5%
- RoHS compliant / lead-free

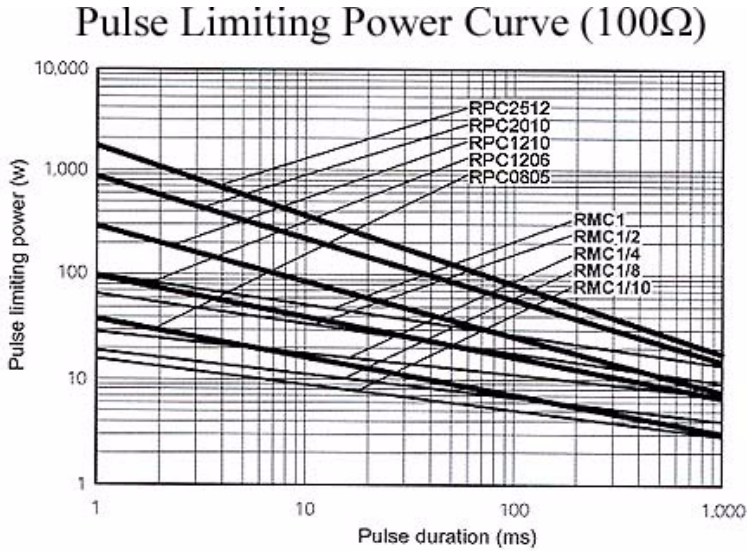
Electrical Specifications

Type / Code	Power Rating (Watts) @ 70°C	Maximum Working Voltage*	Resistance Temperature Coefficient	Ohmic Range and Tolerance
				1%, 5%, 10%, 20%
RPC 0805	0.125W (0.250W**)	150V	±200 ppm/°C	0.27Ω – 22MΩ
RPC 1206	0.250W (0.333W**)	200V	±200 ppm/°C	
RPC 1210	0.333W (0.500W**)	200V	±200 ppm/°C	
RPC 2010	0.750W	200V	±200 ppm/°C	
RPC 2512	1.000W	200V	±200 ppm/°C	

* Lesser of √PR or maximum working voltage.

** Higher power rating for each package size is valid if ambient temp <= 80C and terminal temp <= 105C





How to Order

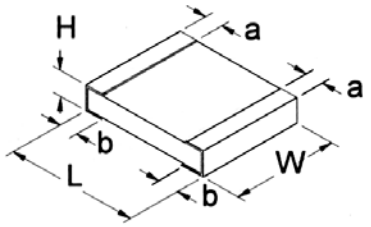
RPC — SEI Type | **0805** — Code | **10M** — Nominal Resistance | **5%** — Tolerance | **A** — Packaging

Type	Description
RPC	Pulse Withstanding

Code	Wattage
0805	0.125W
1206	0.250W
1210	0.333W
2010	0.750W
2512	1.000W

Tolerance	EIA Values
1%	E24
5%	
10%	
20%	

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



Mechanical Specifications

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

Performance Characteristics

Test	Test Results	Test Methods (JIS C 520-1:1198)
Voltage Proof	No breakdown or flashover R ≥ 1G ohm	Clause 4.7 500Va.c.,60s
Variation of Resistance with Temperature	See ratings table	Clause 4.8 +20°C/ -55°C/ +20°C/ +125°C/ +20°C : RPC 2010 RPC 2512 +20°C/ -55°C/ +20°C/ +155°C/ +20°C : RPC 0805 RPC 1206 RPC 1210
Overload	ΔR ≤ ± 1% + 0.05Ω No visible damage, legible markings	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.
Solderability	In accordance with Clause 4.17.4.5	Clause 4.17 235°C, 2s.
Resistance to Soldering Heat	ΔR ≤ ± 1% + 0.05Ω	Clause 4.18 After immersion into the flux, the immersion into solder shall be carried out in Solder bath at 260°C for 5s.
Rapid Change of Temperature	ΔR ≤ ± 1% + 0.05Ω No visible damage	Clause 4.19 Cycle: -55°C/ + 125°C 5 times: RPC 2010 RPC 2512 Cycle: -55°C/ +155°C 5 times: RPC 0805 RPC 1206 RPC 1210
Climatic Sequence	ΔR ≤ ± 5% + 0.10Ω No visible damage	Clause 4.23 Dry/Damp heat (12+12h cycle), first cycle./ Cold/Damp heat (12+12h cycle), remaining cycle./ D.C. Load
Damp Test, Steady State	ΔR ≤ ± 5% + 0.10Ω No visible damage, legible markings	Clause 4.24 40°C, 95% R.H., 56 days, test a) and b) of Clause 4.24.2.1
Endurance @ 70°C	ΔR ≤ ± 5% + 0.10Ω No visible damage	Clause 4.25.1 Rated voltage, 1.5h "ON", 05.h "OFF", 70°C, 1,000h
Endurance at the Upper Category Temperature	ΔR ≤ ± 5% + 0.10Ω No visible damage	Clause 4.25.3 125°C, no load, 1,000h: RPC 2010 RPC 2512 155°C, no load, 1,000h: RPC 0805 RPC 1206 RPC 1210
Adhesion	No visible damage	Clause 4.32 5N, 10s
Bend of Strength of the Face Plating	ΔR ≤ ± 1% + 0.05Ω	Clause 4.33 Amount of bend: 3mm RPC 0805 RPC 1206 RPC 1210 Amount of bend: 1mm RPC 2010 RPC 2512

Operating Temperature Range : -55°C to +155°C