

# RMC Series

## General Purpose Thick Film Chip Resistor

Stackpole Electronics, Inc.  
Resistive Product Solutions

- Features:
- Nickel Barrier terminations standard
  - Power derating from 100% at 70°C to zero at +155°C
  - Zero ohm available (max resistance 0.05Ω)
  - RoHS compliant / lead-free available (RMCF)



Electrical Specifications								
Type / Code	Package Type	Power Rating (Watts) @ 70°C	Maximum Working Voltage (1)	Maximum Overload Voltage	Maximum Current	Resistance Temperature Coefficient	Ohmic Range (Ω) and Tolerance (2)	
							1%	5%
RMC 1/20	0201	0.050W	25V	50V	1 Amp	± 600 ppm/°C ± 300 ppm/°C	1 - 24.9 25 - 10M	1 - 24.9 25 - 10M
RMC 1/16S	0402	0.063W	50V	100V	1 Amp	± 500 ppm/°C ± 200 ppm/°C	1 - 9.76 10 - 1M	1 - 9.1 10 - 20M
RMC 1/16	0603	0.100W	50V	100V	1 Amp	± 600 ppm/°C ± 200 ppm/°C ± 100 ppm/°C ± 200 ppm/°C	0.1 - 0.499 0.5 - 32.4 33.2 - 1M 1.1M - 10M	0.1 - 0.499 0.5 - 20M - -
RMC 1/10	0805	0.125W	150V	300V	2 Amp	± 500 ppm/°C ± 200 ppm/°C ± 100 ppm/°C ± 200 ppm/°C	0.1 - 0.976 1 - 32.4 33.2 - 1M 1.1M - 22.1M	0.1 - 0.910 1 - 22M - -
RMC 1/8	1206	0.250W	200V	400V	2 Amp	± 500 ppm/°C ± 200 ppm/°C ± 100 ppm/°C ± 200 ppm/°C	0.1 - 0.976 1 - 32.4 33.2 - 1M 1.1M - 10M	0.1 - 0.910 1 - 22M - -
RMC 1/4	1210	0.330W(3)	200V	400V	3 Amp	± 400 ppm/°C ± 200 ppm/°C ± 100 ppm/°C ± 200 ppm/°C	0.1 - 9.76 10 - 32.4 33.2 - 1M 1.1M - 10M	0.1 - 9.1 - - 10 - 20M
RMC 1/2	2010	0.750W(3)	200V	400V	3 Amp	± 500 ppm/°C ± 400 ppm/°C ± 200 ppm/°C ± 100 ppm/°C	0.1 - 0.499 0.5 - 9.76 - 10 - 10M	0.1 - 0.499 0.5 - 9.1 10 - 10M -
RMC 1	2512	1.000W	200V	400V	3 Amp	± 500 ppm/°C ± 400 ppm/°C ± 200 ppm/°C ± 100 ppm/°C	0.1 - 0.499 0.5 - 9.76 - 10 - 10M	0.1 - 0.499 0.5 - 9.1 10 - 10M -

(1) Lesser of √PR or maximum working voltage. (2) Contact factory for extended ohmic values. (3) Power rating is 0.500W for ohmic values below 1Ω

## How to Order

SEI Type		Code		Nominal Resistance	Tolerance	Packaging				
RMC		1/16		4.7K	5%	R				
Type	Description	Code	Wattage	Size	Tolerance	Values	SEI Types	Pkg Qty	Description	Code
RMC	Standard	1/20	0.050W	0201	1%	E96,E24	1/20	10,000	7" reel - Paper or Embossed	R
RMCF	RoHS	1/16S	0.063W	0402	5%	E24		15,000		G
		1/16	0.100W	0603			1/16S	10,000		R
		1/10	0.125W	0805			1/16, 1/10, 1/8	10,000	10" reel - Paper or Embossed	G
		1/8	0.250W	1206				5,000	7" reel - Paper or Embossed	R
		1/4	0.330W	1210			1,000		Bulk	A
		1/2	0.750W	2010			1/4, 1/2, 1	4,000	7" - Embossed	R
		1	1.000W	2512						

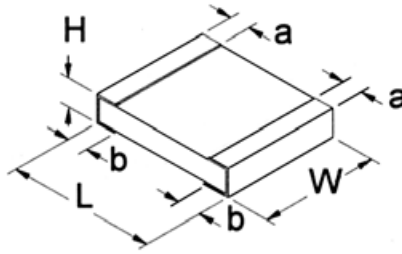
Examples on how to create a part number:

- 0603 Zero Ω jumper = RMCF 1/16 0 R
- 0805 2.2 Ω 5% = RMCF 1/10 2.2 5% R
- 1206 15 Ω 1% = RMCF 1/8 15 1% R
- 0402 33K Ω 5% = RMCF 1/16S 33K 5% R
- 2010 110K Ω 1% = RMCF ½ 110K 1% R
- 2512 2.2Meg Ω 5% = RMCF 1 2.2M 5% R

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Mechanical Specifications						
Type / Code	L Body Length	W Body Width	H Body Height	a Top Termination	b Bottom Termination	Units
RMC 1/20	0.024 ± 0.001 0.60 ± 0.03	0.011 ± 0.001 0.30 ± 0.03	0.010 ± 0.002 0.25 ± 0.05	0.005 ± 0.01 0.12 ± 0.3	0.006 ± 0.002 0.15 ± 0.05	inches mm
RMC 1/16S	0.039 ± 0.004 1.00 ± 0.10	0.020 ± 0.002 0.50 ± 0.05	0.011 ± 0.004 0.30 ± 0.10	0.008 ± 0.004 0.20 ± 0.10	0.010 ± 0.004 0.25 ± 0.10	inches mm
RMC 1/16	0.061 ± 0.006 1.55 ± 0.15	0.031 + 0.006 / - 0.004 0.80 + 0.15 / - 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
RMC 1/10	0.079 ± 0.008 2.00 ± 0.20	0.049 ± 0.004 1.25 ± 0.10	0.020 ± 0.006 0.50 ± 0.15	0.014 ± 0.010 0.35 ± 0.25	0.014 ± 0.010 0.35 ± 0.25	inches mm
RMC 1/8	0.126 ± 0.008 3.20 ± 0.20	0.063 ± 0.006 1.60 ± 0.15	0.021 ± 0.006 0.55 ± 0.15	0.020 ± 0.012 0.50 ± 0.30	0.020 ± 0.012 0.50 ± 0.30	inches mm
RMC 1/4	0.126 ± 0.010 3.20 ± 0.25	0.098 ± 0.008 2.50 ± 0.20	0.021 ± 0.006 0.55 ± 0.15	0.020 ± 0.012 0.50 ± 0.30	0.020 ± 0.012 0.50 ± 0.30	inches mm
RMC 1/2	0.197 ± 0.008 5.00 ± 0.20	0.098 ± 0.008 2.5 ± 0.20	0.021 ± 0.006 0.55 ± 0.15	0.024 ± 0.012 0.60 ± 0.30	0.024 ± 0.014 0.60 ± 0.35	inches mm
RMC 1	0.248 ± 0.008 6.30 ± 0.20	0.126 ± 0.008 3.20 ± 0.20	0.021 ± 0.006 0.55 ± 0.15	0.024 ± 0.012 0.60 ± 0.30	0.024 ± 0.014 0.60 ± 0.35	inches mm

Note: Lead free (RMCF) dimensions same as standard parts

Performance Characteristics		
Test	Test Conditions (JIS C 5202)	Test Results
Short Time Overload	2.5x rated voltage for 5 seconds	± (2% + 0.1Ω)
Dielectric Withstanding Voltage	100 VAC, 1 minute	± (1% + 0.05Ω)
Resistance to Soldering Heat	260°C ±5°C, for 10 sec. ±0.5 sec. (Solder Bath)	± 1%
Solderability	235°C ±5°C, for 2 sec. ±0.5 sec. (Colophonium flux)	95% coverage, minimum
Temperature Cycle	-65°C: 30 min. 25°C: 2 to 3 min. 155°C: 30 min. 25°C: 2 to 3 min. (5 Cycles)	±(1% + 0.05Ω) Jumper (<0.05Ω)
Endurance (Damp load)	40°C ± 2°C, 90% RH, Rated Load 90 min. On, 30 min. Off for 1,000 hrs. -0hrs./+48hrs.	±(3% + 0.1Ω) Jumper (<0.05Ω)
Endurance (Rated load)	70°C ± 2°C, Rated Load 90 min. On, 30 min. Off for 1,000 hrs. -0hrs./+48hrs.	±(3% + 0.1Ω) Jumper (<0.05Ω)
Voltage Coefficient	1/10 rated voltage for 3 sec. max. then rated voltage for 3 sec. max.	±100 (ppm/V)
Robustness of Termination	Bend of 3mm for 5 ± 1 sec.	± (1% + 0.05 Ohm)

Operating Temperature Range: -55°C to +125°C (0201 size)  
-55°C to +155°C (all others)