

# RMCF 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



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%
RMCF 1/20	0201	0.05W	25V	50V	1 Amp	± 600 ppm/°C ± 300 ppm/°C	1 - 24.9 25 - 10M	1 - 24.9 25 - 10M
RMCF 1/16S	0402	0.063W	50V	100V	1 Amp	± 500 ppm/°C ± 200 ppm/°C ± 100 ppm/°C	1 - 9.76 10 - 97.6 100 - 1M	1 - 9.1 10 - 91 100 - 1M
RMCF 1/16	0603	0.1W	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 - -
RMCF 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 - -
RMCF 1/8	1206	0.25W	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 - -
RMCF 1/4	1210	0.33W(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
RMCF 1/2	2010	0.75W(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 -
RMCF 1	2512	1W	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  $\sqrt{PR}$  or maximum working voltage.

(2) Contact factory for extended ohmic values.

(3) Power rating is 0.500W for ohmic values below 1Ω



Mechanical Specifications						
Type / Code	L Body Length	W Body Width	H Body Height	a Top Termination	b Bottom Termination	Units
RMCF 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
RMCF 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
RMCF 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
RMCF 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
RMCF 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
RMCF 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
RMCF 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
RMCF 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

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)

**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	0.05W	0201	1%		E96, E24	1/20	15,000	7" reel - paper tape	R
RMCF	RoHS	1/16S	0.063W	0402	5%		E24	1/16S	10,000	10" reel - paper tape	G
		1/16	0.1W	0603				1/16, 1/10, 1/8	10,000	7" reel - paper tape	R
		1/10	0.125W	0805					5,000	bulk	A
		1/8	0.25W	1206				1,000			
		1/4	0.33W	1210				1/4, 1/2, 1	4,000	7" reel - plastic tape	R
		1/2	0.75W	2010							
		1	1W	2512							

New part number format starting January 3<sup>rd</sup>, 2011:

**How to Order**

1	2	3	4	5	6	7	8	9	10	11	12	13	14
R	M	C	F	0	6	0	3	J	T	4	K	7	0
Product Series		Size	Power	Tolerance		Packaging				Resistance Value			
RMCF	Thick Film Chip Resistors	0201	0.05W	Code	Tol	Code	Description	Size	Quantity	Four characters with the multiplier used as the decimal holder.			
		0402	0.063W	F	1%	T	7" reel - paper tape	0402	15,000	0.1 ohm = R100			
		0603	0.1W	J	5%		7" reel - plastic tape	0603, 0805, 1206	5,000	4.70 ohm = 4R70			
		0805	0.125W			G	10" reel - paper tape	1210, 2010, 2512	4,000	10.0 Kohm = 10K0			
		1206	0.25W			B	Bulk	0603, 0805, 1206	1,000	1 Mohm = 1M00			
		1210	0.33W							Zero ohm jumper = 0R00			
		2010	0.75W										
		2512	1W										